AMERICAN VETERINARY REVIEW,

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EDITORIAL.

CENTENARIO DELLA R. SCUOLA SUPERIORE DI MEDICINA VETERINARIA DI MILANO,—1791-1891.—This is the heading of a very cordial letter which we have received from the worthy Director, Prof. N. Lanzillotti Buonsanti, inviting us, as editor of the AMERICAN VETERINARY REVIEW, to be present at the ceremonies connected with the celebration of the centenary of the great Italian school.

It was with great regret that we were compelled to inform our illustrious friend of the impossibility of our taking advantage of the courteous missive with which he had complimented us. It is an honor which we fully appreciate, and we would be but too glad if circumstances were so propitious as to allow us to partake of the warm and friendly hospitality which has been so cordially tendered. Under the circumstances, however, all that we are able to do in transmitting our sincere thanks, is to assure our Italian friends of our best wishes, our warmest sympathy, and the hope which we entertain of being present on some future day at an international gathering, which may afford us the opportunity we missed today, of giving them a good, warm Yankee hand-shake.

The ceremonies of the festival will be continued during four days, beginning on Saturday, September 5th, and the programme, which has been prepared by the Committee of Arrangements, promises a succession of events in which social enjoyment and the serious business of the occasion will agreeably and profitably alternate and mingle.

If it were a lawful thing to do, we should envy the

National Veterinary Congress of the professors and practitioners of beautiful sunny Italy the prospect before them of such a season of combined profit and enjoyment as that which awaits them.

NEW YORK STATE VETERINARY MEDICAL SOCIETY.—On the 12th of August, pursuant to a notice received from Dr. Hinckley, we reported ourselves at reception-room No. 217, of the Grand Union Hotel, in this city, as a delegate to a meeting of the New York State Veterinary Medical Association, which, we had been informed, was to be held there and then.

For ourselves, and on behalf of the contingent of the profession hailing from Eastern New York, we anticipated that the occasion would be a great one. The consolidation of the veterinarians of the Excelsior State was in our mind, and we tried to imagine what a strong scientific body that would be, how easy it would be to make it a glory and a benefaction to all in the State, and what noble institutions would be modeled after it, and what grand work would be undertaken and finished when all the States would be equally well equipped, and as ardent in the cause, etc., etc., etc.—and so we reveried on.

Well, yes! the occasion *was* a good one. A sufficient number of notices had been mailed, letters of invitation had been addressed to every one reported to the Secretary or known by him—indeed, we were told that more than three hundred invitations, if we are not mistaken, had been issued. The programme was certainly interesting. Papers had been *promised*, and discussion had been *invited*, and so on. Behold our surprise and our regret to find scarcely a score of gentlemen present! not twenty from our big town of New York and its vicinity! no—but twenty from the western part of the State. The great Head Centers of the East were "conspicuous by the absence" of all their veterinarians, with the exception of *four*.

Such facts do not bear comment very well; indeed, comments are useless, if not worse. A grand occasion has been missed, and who will say when another will occur?

The gentlemen of the western part of the State will certainly remember the lack of sympathy accorded to them. A feeling of professional friendship and interest on their part had been rewarded by a want of even delicate courtesy from those who ought to have shown it. The meeting of the New York Veterinary Medical Society was not, however, a failure. Some important matters were discussed; great interest was shown by those who were present; and the manner in which all the transactions were disposed of showed a will in the members to carry on such work as they had in hand, which tells well for the future of the Association.

The next meeting, we believe, is appointed to take place in January, at Syracuse. Eastern New York veterinarians will do well to try then to repair their error of said month. But who knows? If it was too hot to come to New York in August, perhaps it will be too cold to go to Syracuse in January.

We received the transactions of the meeting too late for this number; they will appear in our next issue.

UNITED STATES VETERINARY MEDICAL ASSOCIATION. —As will be seen by the programme printed below, the twenty-eighth annual meeting of the United States Veterinary Medical Association will be held on the 15th of this month in Washington. Though this is called the twenty-eighth meeting, it would seem that after all it is but the *second* meeting, for, correctly speaking, it is only since the meeting in Chicago last year that the Association has assumed its true *national* character.

Last year great efforts were made by Western veterinarians to make the meeting a success. There cannot be a doubt that this year Eastern members of the profession will exert themselves to reciprocate with interest the attentions they received in Chicago. This meeting will assume, besides, more the appearance of being of a national character by reason of its taking place in the capital of the United States; and this seems to us one of the wisest moves the Association has made for a long while.

According to the notice of the Secretary, papers of inter-

est are announced, and the names of those that are to deliver addresses more than suffice to give assurance as to the interest of the meeting. And besides—we may say it between us—we understand that other papers than those already officially on the programme may be presented by gentlemen who for the present desire to remain unknown. There are talks on ophthalmology, on ethics as a means to elevate the profession, etc.; and to all these are to be added the discussions which were postponed from the last meeting.

How long is that meeting to last, Mr. Secretary? You have failed to tell us. Your programme is a little incomplete on that score. But no matter, the meeting promises to be a great affair, and the dreams indulged in years ago concerning the great prospects of the Association appear to be approaching realization. The United States Veterinary Medical Association has a great future before it. The consolidation of its forces was began in Chicago, and is going to be firmly completed in Washington. To what importance it may attain in connection with the future welfare and advancement of the profession no one can tell, but it must in a few years occupy a position much superior to that of any similar body of the Old World.

The twenty-eighth annual meeting of the United States Veterinary Medical Association now promises to be the largest gathering of veterinarians ever held in the United States. The most aggressive work has been done by the Eastern, Central and Western States Secretaries, and from all sections come evidences of such widespread interest as will make this meeting a memorable occasion in the history of the Association.

One of the richest programmes ever offered will afford interest and enjoyment to every member of the profession. To the papers already announced on "Sterility or Barren Mares," by Dr. C. C. Lyford, and a paper by Dr. Bryden, of Boston, there will be added one on "Rachitis," by Dr. W. L. Williams, of Bloomington, Illinois, and his work in the scientific field of labor for our profession is a rich guarantee for a good paper of interest to all. Another paper entitled "Identification of Animals," by Prof. R. S. Huidekoper, a subject of great interest in view of the remarkable advance of values wrapped up in the equine species of to-day, and its bearing in relation to heredity and breeding, will afford a rich entertainment for those present.

The discussion postponed at Chicago on the paper of Prof. A. Liautard, relative to veterinary jurisprudence, as it applies to "Warranty and Soundness," and the need to-day in America of better and more uniform laws relative to the responsibility of the veterinarian, the seller and the purchaser, is of such growing

importance to us all that it needs no further comment. The Committee of Arrangements are making an effort to have this subject discussed by the most eminent members of the Association.

The reports of the Committee on Intelligence and Education, the Committee on Diseases, and special committee on Food Inspection, as also the reports from Resident State Secretaries, will be of the most complete character and promises the most thorough consideration by any body of veterinarians convened in America.

All members of the Association and members of the profession east of Chicago will bear in mind that all railroads in the above territory will grant $1\frac{1}{3}$ rate to all those attending. Every member will ask for a certificate at the point of departure and will hand this to the Secretary at the meeting, which, when countersigned, will entitle him to a one-third rate returning. Tickets will be on sale at all points at least three days before the day of opening, and will be good for return passage until the 20th.

The Comitia Minora will meet at 8:30 A.M. at Willard's Hall, on the morning of September 15th. The regular session will convene promptly at 10 A.M., and it is urged upon all members that they endeavor to be present at the opening.

All members in attendance will register their names immediately upon entering the hall, and all information desired will be gladly afforded by the local committee of arrangements.

W. HORACE HOSKINS, *Secretary*,
12 South Thirty-seventh St., Philadelphia, Pa.

AMERICAN VETERINARY RECORD.—Some time ago we received a prospectus of the above named publication, which announced it as a semi-monthly journal, to be "devoted to the wants and interests of the busy veterinarian, who desires to know the essence of all good things from all good sources." We have not as yet seen a copy of this promising contemporary, and would be pleased to look it in the face, for our own benefit as well as for that of our readers.

NOTICE.—Some friend has sent us a box containing certain bottled pathological specimens of which we would like to be further informed. One of the bottles contain some parasites (worms); another a cerebellum and part of the rachidian bulb; another a piece of liver, and the fourth what seems to be a piece of heart. As the box was not accompanied with a letter, and was destitute of any mark or label, we are unable properly to acknowledge the favor of its transmission, or offer any opinion respecting the specimens. The sender will accept our thanks, and do us a favor by forwarding some written statements as to their origin and nature.

ORIGINAL ARTICLES.

THE CHANGES FOOD UNDERGOES IN ITS PASSAGE THROUGH THE DIGESTIVE TRACT.

By A. H. LOGAN, V.S., Bellefontaine, Ohio.

(A Paper read before the Ohio and Michigan Veterinary Societies.)

The notice received by me to prepare a paper for discussion on this important occasion, was at such a late hour that I wrote our Secretary declining the honor. But on reconsideration I withdrew my former objection and prepared a paper on "The changes the food undergoes in its passage through the digestive tract."

It is not my intention to give a description of the organs comprising the digestive tract, and accessories thereto, as I presume you are all as thoroughly conversant with the anatomy of the parts as I am, but simply to state the various secretions desired to promote digestion, from whence obtained and their various actions upon the food.

The food on entering the mouth undergoes two processes, viz.: Mastication and insalivation. The former is performed by the teeth, and the latter by a secretion called saliva, whieh is obtained from the salivary glands.

The presence of food in the mouth excites the terminal fibres of the gustatory and glosso-pharyngeal nerves, which transmits the sensation to the medulla, the reflex action is returned along the chorda tympani and auriculo temporal nerves which, by inhibiting the sympathetic, dilates the blood vessels, and increases the functional activity of the salivary glands. Some say the chorda tympani contain fibres which directly stimulate the secreting epithelial cells. Stimulation of the vaso-motor nerves diminishes the supply of blood, by narrowing the caliber of the vessels, thereby lessening the secretion. The theory that saliva is produced by pressure alone is incorrect, as the pressure of saliva in the ducts is about twice as great as the blood in the blood vessels. Such being the case, and if due to pressure alone, the saliva would re-enter the blood vessels and lymphatics.

The flow of blood is secondary to the secretion called forth by stimulation, as after ligating the vessels, an amount of saliva can be made to flow from the gland, which could not have been stored up in the cells prior to ligating.

The activity of secretion and vascular dilatation is due to different nerves, as shown by atropia stopping the secretion of saliva, but not preventing the dilatation of the vessels, proving that its effect is restricted to a mechanism engaged exclusively in controlling the activity of the gland cells.

The cells are constantly undergoing repairs and are never perfectly quiescent, but are diligently adding to their stock in hand, as a result of the intrinsic power of their protoplasmic contents.

Saliva is a viscid, frothy, alkaline fluid. Specific gravity about ten hundred and five, and contains: (1) mucin, (2) phyalin, (3) albumen, (4) salts and water, also epithelial cells, mucus and salivary corpuscles.

The mucus is obtained principally from the sub-maxillary, sub-lingual and small mucus glands.

Among the salts is found potassium sulphocyanite, a constituent not found in the blood.

The saliva moistens the particles of dry food and makes them adhere together, also facilitates deglutition by coating the bolus with a viscid fluid, and converts starch into grape sugar, which is due to a ferment called ptyalin.

Ptyalin effects alterations on the substances on which it acts, without undergoing any perceptable change or diminution itself. It exists in such small quantities that its presence can only be known by the effects it produces, and is most active at bodily temperature. Ptyalin acts on starch and is hence called amylolytic ferment. Its mode of converting starch into grape sugar is by uniting to the starch chemically one molecule of water.

During this process, which takes a few minutes to complete, various stages can be detected. First, two substances are formed, which together are called dextrin. One easily passes into soluble sugar and give a red color with iodine, and is called erytho-dextrin. The other gives no color with iodine,

and is with difficulty converted with grape sugar, and is called achroo-dextrin. The sugar thus formed is called ptyalose, which by the action of sulphuric acid is converted into grape sugar (glucose).

Facts about ptyalin. (1.) The extremely small amount required to make the fluid effective. (2.) There is no appreciable diminution in the amount of the ferment, so it cannot be said to be used up in the process. (3.) It acts most readily in alkaline solutions; slowly in neutral, and not at all in acid the strength of two per cent. hydrochloric acid. (4.) Most active at bodily temperature. Excessive heat destroys it. Cold checks it. (5.) Strong acids or alkalies destroy its amylolytic power. (6.) It has but little effect on raw starch, its cellulose coating protecting it, but acts rapidly on well boiled starch. (7.) It is most active in weak starch solutions, and is much impeded in its action by an accumulation of sugar.

To recapitulate we find the following changes take place in the mouth. (1.) Solid food is or should be finely subdivided. (2.) Dry food is moistened. (3.) Rolled into a bolus. (4.) Subricated. (5.) The soluble part is dissolved. (6.) Part of the indiffusible starch is converted into soluble, diffusible sugar.

The food is conveyed to the stomach by the act of deglutition, where it again undergoes changes by the action of the gastric juice.

The gastric juice is a clear, colorless, strongly acid fluid, specific gravity 1,002. It is secreted by small glands situated in and below the mucous membrane of the stomach. There are two different kinds of cells lining the gastric glands and ducts, viz.: the spheroidal, which are most numerous, line the centre of the gland; the others are oval in shape and are found on the parietal portions of the glands and in the ducts.

The chief secretory activity of the glands resides in the central or spheroidal cells, and produces pepsin. Pepsin is also produced by the mucous glands at the pyloric end of the stomach.

The formation of hydrochloric acid is not well understood,

but is most probably secreted by the ovoid or parietal cells, as the spheroidal cells in the centre of the glands do not give an acid reaction, while the ovoid ones in the neck or orifices of the glands are distinctly so. This view is supported by the alkilinity of the gland cells at the pyloric end of the stomach, where the ovoid cells are not found.

The gastric juice acts upon the albuminous bodies, which being colloid cannot diffuse through animal membranes until so acted upon, when they are converted into peptones. It has no action on starch, sugar or fats. It simply dissolves the connective tissue binding the fat vesicles together and sets the fats free, which become liquefied by the animal temperature.

Proteid substances acted upon swell up, become semi-transparent, and then dissolve. There are several different bodies included under the peptones, as metapeptone, parapeptone, dyspeptone, etc., which closely resemble one another in properties but differ from albumen (1) by readily diffusing through animal membranes; (2) not coagulated by heat or nitric acid; (3) not precipitated by acetic acid and ferrocyanide of potassium; (4) giving a pink color on the addition of caustic potash.

They resemble albumen in being precipitated (1) by tannic acid; (2) by lead acetate.

The gastric juice contains (1) pepsin; (2) a curdling ferment; (3) hydrochloric acid (free); (4) mucin; (5) salts and water.

Pepsin plays the part of a ferment, but not acting on the proteids until the hydrochloric acid has reduced them to acid albumen, metapepone, parapeptone, etc. They are then changed into a soluble, diffusible and uncoagulable product—peptone.

Pepsin itself cannot convert albumen into peptone. Albumen may without the presence of pepsin give rise to peptone if treated with strong acids, alkalies, boiling under high pressure, putrefaction and other fermentative actions. Pepsin occurs in small quantities and is not destroyed in the act of digestion.

The curdling ferment is a separate and distinct ferment, having the property of curdling milk.

The mucin is obtained from the mucous glands. The salts are chiefly the chlorides of potassium, sodium and calcium.

RECAPITULATION.—It must be remembered that while the food is yet in the mouth, the secretion of the gastric juice commences, and is increased as the food reaches the stomach. The acid gastric juice neutralizes the alkaline saliva. As digestion progresses the mass becomes a dull gray turbid fluid composed of starch granules, oil globules, dissolved parapeptones and particles of partially digested proteids, and is called chyme. The chyme contains but few peptones, which proves their absorption from the stomach, with the soluble sugar and ordinary fluids taken with the food.

While the above changes are taking place, the liver and pancreas are rapidly secreting fluids the result of reflex stimulation, to complete digestion when the chyme enters the intestines.

The pancreatic fluid is a thick, transparent, colorless, strongly alkaline fluid, and contains (1) four ferments, viz.: (*a*) trypsin, which changes proteids into peptones; (*b*) pancreatic diastase, changes starch into dextrin and sugar; (*c*) curdling ferment, curdles the casein of milk; (*d*) emulsive ferment, emulsifies and saporifies fats; (2) albumen; (3) mucin; (4) salts and water.

The pancreatic juice is produced by the highly increased activity of the protoplasmic contents of the gland cells, the result of reflex stimulation.

The most important function of the pancreas is the formation of a special ferment—trypsin, which converts proteids into peptones, but differs from gastric digestion in (1) requiring an alkaline instead of an acid medium; (2) the proteids are dissolved without any preliminary swelling; (3) leucin and tyrosin are formed.

The fluid secreted by the protoplasmic granules of the gland cells is inert towards proteids and is called zymogen. On its escaping from the cells it is supposed to come in contact with an acid which converts it into trypsin.

The albumen is changed into alkali-albumen by the action of sodium carbonate. The change to alkali-albumen and peptone as accomplished by trypsin is by gradually eroding the proteid from the surface, thus diminishing it in size. While the above changes are taking place, there are formed two nitrogeneous bodies: leucin, belonging to the fatty acids, and tyrosin, to the aromatic acid group.

As pancreatic digestion proceeds, various unknown decomposition products appear, chief of which are indol and skatol, which cause the peculiar disagreeable odor of pancreatic digestion. Small quantities of phenol are also produced.

Saponification is the splitting up of a portion of the fats into glycerine and leucin by the action of a special ferment—steapsin.

Emulsification is the reduction of fat to a very fine state of subdivision, and facilitated by (1) the albumen in solution; (2) the alkilinity of the fluid; (3) the presence of soap; and (4) the motion of the intestines.

The amylolytic power of the pancreatic fluid is more rapid and energetic in its effect on starch than that of the saliva. It is said to affect raw as well as boiled starch, which is due to a special ferment—amylopsin.

RECAPITULATION. The pancreatic fluid, (1) assists in neutralizing the acid gastric juice; (2) emulsifies and saponifies fats; (3) converts proteids into peptones; (4) converts starch into grape sugar.

While the above changes are taking place, the ingesta is further acted upon by the secretion from the liver—bile. In the protoplasm of the liver cells are several varieties of granules, the commonest being bright, refracting fat globules, which vary in amount with the different stages of digestion. Others, of a yellow color, secrete the coloring matter of the bile. Others, less refracting and colorless, are supposed to produce glycogen.

Bile is an alkaline, golden-yellow fluid, of bitter taste, specific gravity 1,018, and is composed of mucin, bile pigments, sodium salts of bile acids, cholesterin, lecithin, salts and water.

The mucin is obtained from the mucus glands in the ducts. It passes unchanged into the intestines, and is evacuated with the fæces.

The bile pigments are sometimes of a reddish form—bilirubin, and are probably obtained from the hæmoglobin of the red corpuscles in the liver, as it is identical with the hæmatoiden of old blood clots. On oxidation they become green—biliderdin. On entering the intestines, the biliderdin is decomposed by taking up water, forming hydro-biliderdin, and is thus eliminated as the coloring matter of the fæces—stercobilin.

The bile acids are two compound acids, glycocholic, and taurocholic, which exist in combination with sodium. They are formed in the liver, as no trace of them can be found in the blood. The bile salts in digestion are split up, decomposing the glycocholic and taurocholic acids. The cholic acid remaining free in the intestines is eliminated with the fæces, while the glycin and taurin are reabsorbed into the blood.

The principal fatty matters of the bile are lecithin, palmitin, stearin, olein, and soda soaps.

Cholestrin is held in solution by the bile salts, and leaves the intestines with the fæces.

The salts are sodium and potassium chloride, calcium phosphate, magnesia and iron.

The acid secretion of the stomach on entering the intestines is neutralized by the alkalinity of the bile and pancreatic fluids, which cause a precipitate of acid-albumen and peptones to be thrown down.

The uses of bile are (1) slight action on converting starch into sugar; (2) assists in emulsifying and saponifying fats, but to a much less extent than the pancreatic fluid; (3) assists in the absorption of fats. Owing to the peculiar power possessed by the bile salts, a membrane saturated with it allows an emulsion of fat to pass more readily through than if kept moistened with water); (4) increases peristalsis. (By its stimulating actions it excites the muscles of the intestines to increased action); (5) moistening and lubricating. (The bile adds to the ingesta a supply of fluid and mucus, which moistens and lubricates the

fæces, and facilitates their evacuation); (6) antiseptic: (Bile is said by some to prevent putrefaction; if true, it must be to a very slight degree, as bacteria thrives in and around it).

The intestinal secretion is obtained from the glands contained therein, and is a thin, yellowish, alkaline fluid. Specific gravity 1,011. It is capable of converting cane sugar and starch into grape sugar, by the action of a special ferment—invertin. It brings aboutlactic fermentation, dissolves fibrin very slowly; still less so other proteids. It is also said to emulsify fat.

PUTREFACTIVE FERMENTATION OF THE INTESTINES.

The lower organisms contained in the air and saliva and swallowed, produce certain fermentative changes, quite distinct from the action of the special ferments of the digestive fluids. This is proved by the composition of gases found in the intestines. The oxygen of the atmospheric air swallowed is absorbed, leaving nitrogen, while a quantity of carbonic anhydride and hydrogen from the fermentation of sugar are set free. Lactic and butyric acids are produced at the same time. Indol and skatol are formed by putrefactive fermentation of the leucin and tyrosin.

A SUMMARY OF DIGESTIVE CHANGES.

The food when taken into the mouth is, or should be, finely subdivided, mixed with saliva, reduced to a pulp, a certain amount of starch converted into sugar and rendered alkaline. Fats and proteids unaltered. On reaching the stomach the mass is rendered acid, conversion of starch into sugar ceases. Connective tissue of fats dissolved, fats set free and liquefied by the animal temperature. Proteids dissolved and peptones formed. A grumous mixture of peptones, liquid fats, and starch is formed and called chyme, which on passing into the intestines and mixed with the bile, pancreatic and intestinal fluids, becomes alkaline. Conversion of starch into sugar recommences. Emulsifying and saponifying of fats begin. The undissolved proteids are converted into peptones. The diffusible peptones and salts are absorbed and enter the portal system; the fats in a fine state of subdivision enter the lacteals, while the residue or inert material is expelled as fæces.

CASES OF DIFFICULT PARTURITION.

By Wm. H. Gribble, D.V.S., Washington C. H., Ohio.

(A paper read before the Ohio and Michigan Veterinary Societies).

I have prepared, not an essay or an elaborate paper on any disease, but a few cases of identical nature which have come under our own observation; and ask your opinion as to the cause and effect of these cases, which we will term "Difficult Parturition, In-breeding and Monstrosities."

Case No. I.—Summoned early one morning to aid a heifer (first calf). Found the animal in labor, great straining, but no part of calf protruding. On examination, found a transverse presentation, vertical position; and with great difficulty at examination finally decided that the head was uppermost, though not entirely satisfied of this fact; and after tedious manipulation found two feet. Here our trouble began, for as before stated, we had decided the head to be in a certain direction, but the feet now found, by the direction of the toes, decided us that they were those of the hind limbs.

The animal was small and manipulation tiresome, but finally attached cords to these supposed hind feet, and with repeller above tried to bring about a posterior presentation. In this we failed, and on again making an examination after some pulling had been done, we found the breast of calf at pelvic opening with head and neck upwards and backwards; and delivery being impossible in this position, still believing the cords to be on the hind feet, we amputated the head and neck, and removed that part. While resting, supposing we still had plenty of work, what was our surprise to see the heifer expel the calf with scarcely any effort, and explain all our trouble at a glance. The fœtus was a monstrosity, with the front and hind limbs, from carpal and tarsal joints down, reversed, points of toes of all four pointing posteriorly.

The upper jaw was four inches shorter than the lower one, the nose proper being entirely absent.

Case II.—Ten months after the previous case we were again called to the same farm and to aid the same cow. Ex-

amination showed anterior presentation, deviation of head and front limbs downward and backward, but as the fœtus was not large, delivery was brought about without searching for and straightening the front limbs. Again the fœtus was a monstrosity. Upper jaw four inches shorter than lower one, ending square and sudden, with the nasal openings in this square stump. The right front and right hind limbs from knee and hocks were atrophied or had developed only to about the size of a man's thumb, but of a natural length, and were reversed, as all four limbs had been at the previous birth.

The calves from this cow had been sired by the dam's own sire. Had this anything to do with it? (Owner's name, Dr. Fortier, New Martinsburg, Ohio).

CASE III.—Grey draft mare, six years old. First colt. Examination showed posterior thigh and croup presentation, with fœtus so wedged in pelvic cavity as to be unable to move it a particle forward or backward; with saw we divided pelvic bones of fœtus above and below the acetabulum, severed the muscular tissues of the parts, succeeded in attaching small strong cords to the head of femur, and with strong traction drew out the limbs, by sort of turning the skin, etc., of the parts inside out. Delivery was now easy. The foal proved to be of good size, well developed with the exception of forward limbs, which were not more than ten inches in length, normal in shape to the knees, but from that down were reversed, toes pointing backward, as of the cow described. This foal was sired by the dam's own sire. Had this fact anything to do with it?

CASE IV.—Brown draft mare, eighteen years old. First foal. Examination showed anterior presentation, with backward deviation of front limbs, and extreme downward deviation of the head and neck. The mare being large and roomy, and from some cause did not strain at all, I could readily reach the head, to which a halter was applied; but the strength of three men could not straighten the neck. We concluded we had a case of anchylosis of cervical vertebra; so using a saw severed that part, reversing and removing it. We now reached the knees, but again no amount of strength

was of any avail, so the saw was again used at the shoulder. Attaching hooks to the shoulder blades, we drew the foal toward us, and so short was the fœtus that we could readily reach its tail, but its width far exceeded the transverse diameter of the dam's pelvis. For four hours we worked at the removal of this, and finally succeeded, after sawing the spinal column at three different places.

We found every joint of fœtus, from atlas to coccyx, anchylosed, and the vertebral column to be transversely in the shape of the letter S, which caused the apparent great width. The scapulo-humeral and pelvic femoral articulations were also anchylosed, and all four limbs from hock and knees reversed just as the other cases.

This foal was sired by the dam's own sire, 22 years of age. (Owner's name, Jas. Pussinger, Washington C. H., Ohio).

Here are four cases all exactly alike in one particular, and all inbred alike. Not that these four are all the monstrosities we have seen, but they are all in which the feet were reversed. We cannot say that we believe that the breeding was the cause of this effect, but did it not have something to do with it? I find on page 402, Fleming's Veterinary Obstetrics, something like these cases, but nothing is said of the relationship of sire and dam.

I have known a goodly number of premature births from such breeding, and would ask of you a good expression of your views on the subject.

OSTEOPOROSIS AND OSTEOMALACIA.

Translated by RICHARD MIDDLETON, A.B., D.V.S., Philadelphia, Pa.

The condition known as osteoporosis has for many years been looked upon as a peculiar and separate affection of the compact tissue, principally of the long and of the elongated bones of the equine osteology. The pathological features of the disease are very suggestive of osteomalacia, and if they are not in every detail similar to those of this condition, they are also not sufficiently differentiated from them to create it an individual affliction.

In the pathological anatomy, osteoporosis is described as consisting of a widening in the Haversian canals, through an atrophous process which absorbs the innermost portion of the same; by this process the fundamental substance degenerates into a cancellated formation, which is difficult to distinguish from the normal cancellated tissue of the bone. This atrophy is either concentric or eccentric, according as the process of resorption proceeds toward or from the axis of these vascular canals; and it is evident that such is only possible, after the bony substance has become of a soft consistency, through a hyperæmic circulation.

The appearance of a bone in which osteomalacia is present depends upon the length of time throughout which the bone has been the seat of the process. In the earliest stages there is hyperæmia; the vessels together with the bony (Haversian) canals are of larger calibre, but the tissue adjacent to the latter is only in an insignificant degree altered.

In cases further advanced the hyperæmia is more considerable; a transverse section of a bone from such a case shows numerous red points, with hæmorrhages in the medullary substance. The medulla is enlarged, and within it are noted small bony scales; the bone is much easier cut than in health; the lacuni (osteoplast) are enlarged and empty, their canaliculi have either totally or nearly disappeared, and the bone cells proper are in a thready, degenerated state. The whole presents a transformation of the bony matter into osteoides, and at last is seen one vast mass of cavernous substance. In the severest cases the hyperæmia of the bone and marrow are still more intense, the corticular portion becomes more spongy, soft and tender; but the marrow, contrary to the solid substance, increases and appears as a soft watery mass of a grayish-yellow color, which advances into the epiphesis, thereby so diminishing the strength that fracture is inevitable. The specific gravity of the bone has decreased; much of its calcium salt has disappeared,—indeed only one-half the original quantity may remain,—and contemporaneous with this decrease in solids is an increase in the watery constituents.

Besides the lesions in the bones there are also lesions in the articulations, which produce a reddish effusion. The remaining organs of the body remain unaffected, and throughout the course show no change whatever. By continued wasting and weakness there is induced a cachectic state of the patient, which is constituted by hydræmia, transudations into the several cavities, and a disappearance of the normal fat; also a fading of the muscular tissue and an infiltration of the same with a gelatinous fluid.

The symptoms of osteoporosis do not manifest themselves at the beginning of the affection, but rather when the changes interfere with some physiological function; fractures occur under ordinary driving and with the advance of the disease mastication becomes no more possible, the patient becomes anxious and his steps are short, as if by instinct he was fearful of every act of locomotion. Pressure upon the locally diseased spot causes pain.

Symptoms of osteomalacia are likewise postponed; they do not reveal themselves with the beginning of the lesions in the bones, and the painful character, together with the progressive marasmus incident to the disease, may not be noticed for a considerable time. These symptoms consist in a painful, stiff and anxious manner of progression; after continued exercise, sudden lameness; in standing, the body weight is alternately placed upon one and then the other of the feet; pain upon assuming the decumbent position and also when rising. Pain also in the region of the withers, shoulder, and lumbar vertebræ. Under some circumstances the joints are swollen and emit a crackling sound; later comes parting of the ligaments, dislocations and fractures; and these, moreover, from the most trivial causes. In both affections fractures of the ribs and external angle of the ileum are oftenest observed; but, remarkable to state, these are painful only in a slight degree, and are not inclined to heal.

In summing up the two conditions—improperly so-called, it is evident that the ætiology, pathology, semeiology, course and termination are practically the same. Osteoporosis oc-

curs oftenest in equidæ, while osteomalacia is principally met in bovidæ; the former is a disease of middle life irrespective of sex, and the latter is an affection of the pregnant period. Different locations of the same process should never constitute separate diseases; but rather different processes, whether they occur upon the same region or are widely separated one from the other.

THE NEW PHTHISIS REMEDY.

By the Same.

Before the tuberculin of Koch has been sufficiently investigated either clinically, pharmacologically or chemically, there has already appeared another anti-tubercular remedy, which is concentrating professional attention upon itself. It is the universally known cantharides which is now recommended, and with which we are better acquainted than the human physician. Cantharides contains, among other constituents, an aromatic, irritative substance named cantharidin.

This active principle, when brought in local contact with the skin, mucous or serous surfaces, especially in the kidneys, causes a serous transudation. Liebreich has demonstrated that this infiltration also occurs in the lungs, and that in this locality it is independent of the blood pressure and directly relative to the influence of the cantharidin upon the walls of the capillaries. He further states that this transudation occurs to a more considerable degree in altered or diseased organs, than in those acting physiologically. Through increased quantity of serum, there should result an invigorating and more complete nourishing of the part, and therewith, contemporaneously, an increased power to withstand the bacillus.

As proof of this, Liebreich adduces the fatal working of simple blood serum upon the bacillus as found in canidæ and leporidæ.

This new method has been named by the discoverer "the serum therapy."

Objection may be made to the internal administration of

the remedy, on account of the severity of its local action upon the digestive tract. To obviate this he recommends the subcutaneous injection of sodium cantharidate in the region of the spinal column; the dose is one to four drachms for an adult man.

During such a course of cantharides, the urine must be kept under constant surveillance; the moment blood corpuscles or cylinders are detected the agent is to be immediately discontinued.

Success in some cases has been ascribed to this new therapy.

The commercial sodium and potassium cantharidate are not to be used, from the fact that the gradation of the dose is impossible. Preferably, one dissolves 0.2 grains of cantharidin in 0.3 grains of sod. hydrat. and heats the same together with 20 ccm. of aq. distillat over a water-bath until there is a clear solution; while the latter is still warm it is added to sufficient water to raise the total to exactly one liter. One cubic centimeter of this solution represents 0.0002=2 dgm. of sod. canth.

OPEN-JOINTS, AND A NEW REMEDY.

By G. A. Johnson, D.V.M., Odebolt, Iowa.

(A paper read before the Western Iowa Veterinary Medical Association).

I will offer for your consideration this evening the subject of open-joints, and in connection with it a short discussion of the new remedy, aniline.

Open-joint is an affection often met with in this section of the country as a sequel to barb-wire injuries, and is always of a serious nature, but does not, as of old, necessitate the destruction of the animal.

It is needless for me to take up your time with a discussion of its symptomatology and pathology, so I will at once take up the line of treatment.

The first, greatest, and in fact the base of all treatment is cleanliness, surgical cleanliness, which consists in thoroughly disinfecting the joint and wound, and to maintain aseptices,

and secondly, to offer such assistance to nature as the case may demand in the way of healing and anodyne applications.

I am of the opinion that very frequently the practitioner makes a fatal mistake by closing the opening into the joint before he has rendered it thoroughly antiseptic, for how often do we have to contend with a high systemic fever, and general constitutional disturbances, with a hot and very painful swelling of the joint, after it has been closed, which sooner or later breaks, and discharges a fetid pus.

In this stage the animal rapidly becomes emaciated, weak, and usually quickly succumbs from nervous prostration, as a sequel of the pain caused by the suppurating process going on within the joint.

I can conceive of nothing but failure for the practitioner who so ignores the teaching of modern surgery as to endeavor to immediately close the opening of the joint, notwithstanding the teachings of Prof. Williams.

I have had the best results in treating this affection by injecting into the joints, two or three times a day, a solution of corrosive sublimate, one part to 500-1000 parts of water.

This does not materially interfere with the secreting action of the synovial membrane, but causes some inconvenience by coagulating the synovia, which may be obviated by the use of a remedy to which I will allude further on in this paper.

To the external portion of the wound I usually apply the white lotion, and when the pain is excessive I have the parts bathed, for from fifteen minutes to one hour, with hot water, and then apply an anodyne liniment composed as follows: fl. ex. bellad., fl. ex. aconite, aa., oz. 2; aqua pura, oz. 6; Mx. Sig. Apply to the parts two or three times a day, as the case demands.

Constitutional disturbances are treated according to their indications.

I always expect to close the opening of the joint by the cicatrix of the external wound, having kept the structures of the joint in an antiseptic condition by the use of the sublimate solution. Have never derived satisfactory results from the use of bandages, etc.

My attention has recently been called, by several articles in the *Veterinary Journal*, of London, to the use of the various preparations of aniline, as antiseptics and deodorizers.

As yet I have seen no mention of their use in the affection of open-joints, but from their action, as given in these several reports, I am led to view them favorably for use in this affection.

Pyoktanin, the copyrighted name for methol violet, was introduced into the medical profession by Dr. J. Stilling, of Strasburg, in April, 1890, and the June number of 1891 of the *Veterinary Journal* of London contains a report of Dr. Stilling's experiments with the various aniline preparations.

Methyl violet is about three times as powerful as sublimate in its action on anthrax bacillus, and quite as effectual as sublimate in its action on the staphylococcus pyogenes aureus. 2d.—It is perfectly non-poisonous. 3d.—In consequence of this, it is immaterial how strong the solution may be, even up to the use of the pure substance itself. 4th.—It does not coagulate egg albumen. 5th.—It possesses a wonderful power of diffusion, penetrating the eye like atropine.

"The following are the preparations of the dyes:

"1st.—Pure methol violet, to be used as a powder for large wounds and ulcers.

"2d.—Large pencils, for small wounds, burns, etc. For purulent cases the blue pencil is better than the yellow on account of its greater antiseptic property.

"3d.—Small pencils, for applications to the eye in cases of corneal ulcer, etc.

"4th.—Powders, of 1 in 1000 strength in mild cases of conjunctivitis, and of 2 per cent. strength for the more severe cases.

"5th.—Ointments, in strengths varying from 2 per cent. to 1 in ten.

"6th.—Solutions, used in strengths of 1 in 100 to 1 per cent.; the 1 in 1000 solution may be used for ordinary cases of conjunctivitis, keratitis, etc., and in non-purulent cases the yellow dye auramin may be used on account of its cooling properties. The solutions should be filtered and kept in dark

glass bottles, and changed every eight days. The substance should be absolutely pure."

The May number of the same journal contains the following:

"Aniline dye or pyoktanin, as it has been named in Germany, is now coming into use in that country as an antiseptic and astringent remedy in veterinary practice."

Professor Eggling has employed it in the treatment of foot and mouth disease with surprising success, the affected parts being dressed with a solution of the dye, 1 to 100 of water.

Mehrdorf, of Breslau, reports most favorably of its use in the treatment of this malady. It was applied to 1293 animals, of which 1261 were oxen, 28 pigs and 4 goats, in all the different stages of the disease. The affected parts were brushed with a solution of 1 to 100, and then, to 500, and lastly with 1 to 1000.

In cases where applied at once the animals recovered within twenty-four to forty-eight hours.

It may be mentioned that Eggling applied the solution by means of a syringe.

In a recent number of the *Monatschrift fur prakt. Thierheilkunde*, Prof. Schlampp, of the Munich Veterinary School, alludes to the antiseptic and germicide properties of pyoktanin, and gives illustrations of its wonderful value as demonstrated in the surgical clinics of Prof. Hahn. The first and most important feature in it, perhaps, is that it is not poisonous, and does not coagulate albumen. For recent wounds (as immediately after operations) as well as for those which are old, suppurating and of an unhealthy kind, it has been employed, and with better results than any other agent; as it brings on a favorable healing process and alters the character of bad discharges.

"In ulcerations of the skin (as those which occur in distemper of the dog) a watery solution of 1 to 5000, applied by means of a small brush, has been used with the results that any foul smell present has been destroyed, and the sores quickly present a smooth, healing surface. In suppurations of the

skin the effect of its application has been extraordinary, especially in those deep wounds caused by such injuries as dog bites, when the subcutaneous connective tissue is infiltrated with pus.

"'Grease' of the legs of horses has been treated in all its forms and stages, and it has been found superior to any other remedy, as it not only stops the discharge, but it allays the pain and swelling. In decubius gangrene (brought about by lying on the side too long) it has likewise been most beneficially employed, being applied by the brush four or five times a day.

"In middle ear catarrh of dogs it has rendered good service at all stages when applied thoroughly once to three times a day, by means of a brush (large or small, according to the size of the ear). In some cases a tincture acts more powerfully and promptly, and may be dropped into the ear. Schlampp gives its strength as 1 of aniline to 100-500 of absolute alcohol; a half to a whole teaspoonful being sufficient for an ear. The tincture should be slightly warmed before being applied to the ear.

"It is suggested that aniline might be of great service in catarrh in the respiratory mucous membrane; being given by inhalation. It has been tried in this way in bronchial catarrh, and appeared to diminish the pain.

"Altogether, the reports from Germany are so much in favor of the employment of this material as an antiseptic and desiccant, that we think it well deserving of a trial in this country. Its innocuousness is a strong recommendation. The number for July, 1891, of the same journal, contains the following reports, by F. Holiday:

"Case No. 1 was a cob which was suffering from purpura hæmorrhagica. On the seventh day some of the swellings burst, whilst others were scarified; very unhealthy, suppurating wounds were produced, the smell from them being very offensive. These were first dressed with solutions of carbolic acid, after being carefully washed with warm water containing Jeyes' fluid; but this was not sufficient to produce the desired effect. An aqueous solution of anyl. meth. violet was next tried, and with the utmost satisfaction, the offensive smell

being completely destroyed, and the wounds, after dressing for four days, presented a healthy granulating surface, finally healing altogether. In conclusion I may mention that the cob made a good recovery and is now at work again.

"Case No. 2 was a horse suffering from sore withers, caused by the rug being fastened too tightly round its neck. The wounds were very painful, and the animal was unable to wear a collar. After dressing for three days, the soreness had completely vanished, and the horse went to work as usual.

"Case No. 3 was a Belgian horse suffering from chronic 'Grease.' An aqueous solution of anyl. meth. violet was used in order to deodorize the parts, and it succeeded admirably.

"Case No. 4 was also one of 'Grease,' the skin of the near hind leg having been completely removed by some kind of irritant dressing which the owner himself had been applying. In this case also the smell from it was very offensive. After two dressings of anyl. meth. violet, the smell was completely removed. After being dressed for four days, healthy granulations appeared, and the wound ultimately healed up. The leg was also very much swollen, but this was considerably reduced without the application of any other remedy.

"We have also used it in all kinds of wound cases. It answers very well indeed as a coloring agent for lotions, etc., except, perhaps, where the horse is light colored, as in that case, unless it is a very dilute solution, it temporarily dyes it. To be used for the above, of course, it must be first made into a solution. For coloring powders, etc. a very small quantity will produce a beautiful purple tint."

I have given these articles verbatim, the better to give their physiological and therapeutical actions.

In the *Bacteriological World*, for February, 1891, Dr. Tiffany, of Kansas City, gives an extensive account of the use of pyoktanin in ophthalmia, and reports the most gratifying results. As yet I have not had an opportunity to try the drug; but if the drug is reliable in its therapy as delineated in the above reports, it is the coming therapeutic agent in the treatment of open-joints. At least it seems worthy of a thorough trial.

SOME OBSERVATIONS ON CONTAMINATED WATER SUPPLY FOR LIVE STOCK.*

By Dr. M. Stalker, V.S., Ames, Iowa.

There is no fact better known to the sanitarian than that one of the chief sources of danger to life and health is the contamination of drinking water. If a malignant form of fever makes its appearance in a family, which cannot be explained by the history of actual exposure to contagium, the water supply always comes in for an early and liberal share of attention. The instances are sufficiently numerous in which the investigator is enabled to trace the malady to this source, to warrant every reasonable precaution in procuring a pure water supply. Nor are these facts known to the sanitarian alone. The reading public have been sufficiently enlightened on this subject to enable them to avoid much of the danger from this source. While we are beginning to take a fairly lively interest in our personal dangers and the methods calculated to avert them, we have yet hardly taken time to consider the economic question of how far our live stock industry may be affected by the same class of causes. We drill down into the solid rock to procure a water supply of unquestioned purity for family use. We boil, or subject to other purifying means, all suspected samples before they can be used. This is well. But all this time our helpless dumb creatures may be compelled to drink from a shallow slough, foul with decomposing vegetation, or from a surface pond almost at boiling temperature under a summer sun, where the minute forms of animal and vegetable life gender in such profusion as to render the whole a mass of animate slime. No one who has had a glimpse of the microscopic world would except a human being to take a draught of such a beverage and live. But our animals are not only expected to live, but to thrive under such conditions. That these expectations are frequently disappointing, I will cite an instance

* Extract from Bulletin Iowa Agricultural Experiment Station, Ames, Iowa.

or two in proof. During the latter part of the summer of 1890 I had occasion to investigate a severe outbreak of disease on a farm in one of the counties of Iowa. The animals, including horses, cattle and pigs, were all affected in the same way. The local symptoms were largely confined to the throat. There was a swelling, partial paralysis of the walls of the upper air passages, and painful and difficult breathing. The animals attacked uniformly died after an illness of about two days. The disease I could not recognize as belonging to any of the well defined types with which I was acquainted. Here were horses, cattle and pigs sick and dying with disease showing the same symptoms in all. There are few if any of the specific forms of disease that spread as epizootic among the widely differing species of domestic animals. I could not classify the disease, and at once set about the task of discovering, if possible, some common source of exposure. The pastures, buildings and water supply were each in turn subjected to careful scrutiny. The buildings were such as are to be found on ordinary Iowa farms, fairly comfortable and clean. I could find no clue in the quantity or quality of feed that promised to lead to a solution of the difficulty. On investigation of the water supply, I found that most of the animals on the farm drank from a small creek that ran a zigzag course through the premises. The stream was in part supplied from a series of springs, and in ordinary seasons afforded a fair amount of water, which ran, at least for a portion of its course, over a gravelly bed. The present dry summer, with several previous ones showing an abnormally light rainfall, has so reduced the amount of water that it had ceased to run. On making examination and conducting inquiries, I ascertained that it had been the custom on the farm to throw the carcasses of animals down the steep bluffs into the bed of the stream. I further learned that during the summer, chicken cholera had prevailed on the farm, and that a large number of chickens had died and been thrown over the bank. I was also informed that the hog cholera had caused the death of a considerable number of swine, the carcasses having been treated in a similar manner. The several

yards occupied by horses, cattle, pigs and barn yards fowls were on the hillside, with abrupt drainage into the creek. In addition to this, large heaps of fermenting manure were deposited about the foot of the hill near the edge of the stream, where the animals went to drink. A few of the animals on the farm had not had access to the stream, but had been watered from a well. None of these had showed signs of sickness, though they had been in daily contact with those that had their water from the pools in the bed of the stream, and even with some of the sick. On looking up the local geography of the neighborhood, I found that a number of farmers had built their homes along the banks of this stream, and had been accustomed to make use of it in much the same way as the farmer above referred to. Inquiry elicited the fact that on no less than four farms situated on the banks of this stream, animals had died showing symptoms identical with those on the farm first investigated. I regarded the evidence as sufficient to make out a strong case against the impurity of the water and gave an opinion accordingly.

The above is but a single instance out of many that have come under my observation. It is one of the most glaring, but by no means one attended with the greatest degree of loss. On another occasion where a high rate of mortality had prevailed among the cattle running on the open prairie, I was able to trace the cause to contamination of surface water. An animal dead from anthrax had been drawn into a basin on the open prairie. Later the rains filled the basin with water, and about one thousand cattle on the range had access to the pond for water supply. The result was that about ten per cent. of all the animals having access to the impure water died from anthrax. The teachings of these object lessons are sufficiently obvious. These animals are endowed with organizations not unlike our own, and the manifest laws of being and of health can no more be violated with impunity by them than by ourselves.

DR. TAIT BUTLER, of Iowa, has recently accepted the chair of Veterinary Science in the Mississippi Agricultural College.

THE RELATIONSHIP EXISTING BETWEEN HUMAN AND BOVINE TUBERCULOSIS.

By Prof. E. F. Brush, M.D., Mt. Vernon, N. Y.

(Continued from Vol. XIV, page 696).

We have well-authenticated statements respecting another semi-civilized race, the natives of Great Kabylia, who, according to Hirsch and Evans and other authorities,* enjoy an almost absolute immunity from phthisis. According to the best authorities I could consult as to the history of the people, there is no evidence of the presence of the bovine tribe among them, but they possess large flocks of sheep and goats, and each family has usually one buffalo ox to do the plowing.† As these are a peculiar people, with peculiar ideas and peculiar habits, not calculated to encourage visits from European invalids, they retain their immunity from phthisis to the present day. But not so with their neighbors, the Algerians. This country, having been occupied for over half a century by the French, has been therefore rendered sufficiently civilized to offer an asylum for European invalids. When first occupied by the French, the country was exempt from phthisis, and, of course, the publication of this fact drew to it many consumptive invalids. The dairy cow was unknown in Algiers before the French conquest. There were innumerable herds of buffalo, indeed; but the French in vain offered a premium of fifty francs a head for the importation of dairy stock.‡ Up to 1854 they were unsuccessful, all these attempts proving futile. In the latest statistics from that country we find the largest proportion of deaths from phthisis among the European civilized residents.§

Dr. Scoresby Jackson makes the following remark about Algiers: "It is not necessary to prove the absence of pulmon-

* Armand, "Méd. et Hygiène des Pays Chauds," Paris, 1853, p. 375. Bortheraud, "Méd. et Hyg. des Arabes," Paris, 1855.

† Daumas. "La Grande Kabylie." Morell, "Algeria," 1854.

‡ Morell, "Algeria," p. 477.

§ Jackson, "Medical Climatology," p. 138.

ary consumption from the natives of a country in order to demonstrate the beneficial influence of its climate upon those so affected from other countries. It would be difficult to find such a place, . . . but Algiers, at all events, approximates such a condition."

There are many other countries furnishing statistics of death-rate from phthisis where the disease is not indigenous but due to importation. I think this can be said of Greece. According to Roser * and Olympios, the disease is very rare in that country, and Edmond About, in his book on "Greece and the Grecians," tells us that "the town of Athens possesses only five or six cows; no other milk is drank than that of the sheep; their butter alone is eaten. They eat meat but once a year. The entire population eats meat at Easter for the whole year,"† and this meat is lamb.‡

In studying the relations existing between the human and the bovine races I find that religion plays a prominent part. Thus, in India, with the Mohammedan, Brahmin and Buddhist religions, but where, as a rule, dairy cattle have not been domesticated, there was undoubtedly an absence of phthisis before the English occupation. Hence, to-day we find all statements regarding the presence of tuberculosis uncertain. Thus Hirsch§ says: "So also in India the prevalence of phthisis cannot be given in figures. It is, on the whole, rarer in that part of the world than in the temperate zone of the Eastern Hemisphere, but by no means so rare as the earlier observers supposed from their imperfect means of diagnosis." Now, here is that expression of the feeling of doubt and uncertainty which we find in many works relating to this elusive disease. A man of scientific ability goes to a country and finds no phthisis among the inhabitants. After some years under circumstances that change the habits of the people, he begins to find phthisis, and therefore imagines that he was mistaken

* Roser, "Ueber einige Krankheit, des Orients," p. 79. Olympios, "Corresp. bayerischer Aerzte," p. 181.

† Edmond About, "Greece and the Grecians," p. 33.

‡ *Ibid.*, p 102.

§ Hirsch, *op. cit.* vol. iii. p. 185.

in his first observations. We find this taking place in Australia. Algiers and Greenland. In India this vacillating expression, of doubt is easily accounted for. When the English first occupied the country, the only cow they had was the small Hindoo variety, not related to our dairy cow, and this animal was and is an object of veneration, and the milk used in the country was derived from the buffalo. All the Buddhists and many of the Brahmin castes abstain from the use of meat in any form. Ansell, an early writer, says: "It appears that tuberculosis is correspondingly non-existent in certain localities in India." Now, there is a constant change always taking place in such a country as India. Prejudices are dying out and many of the people have undoubtedly adopted the habits of their conquerors. The English dairy cow is slowly but surely finding her way into India, or as Mair, a deputy coroner of Madras, says: "Beef is not at all times procurable, but is generally sold about once a week in every station where there is a sufficient number of Europeans to render the slaughter of an animal worth the butcher's while, for little beef is used among the natives. Occasionally the slaughter of a fine English stall-fed cow is advertised. In some districts the sale of beef is prohibited by law, out of respect for caste prejudices. Butter is an article difficult to procure of good quality, except on the hills, where it is sold by European settlers, who make dairy-keeping contribute to their support. The native tendency is to palm off buffalo butter for that made of cow's milk." There is little doubt that when the English dairy system becomes well established in India, the statistics of phthisis will be uniform and undoubtful. Of course, the Buddhists and Brahmins will be the last to adopt the dairy cow as a food producer.

Geographical and climatic conditions have little, then, to do with the prevalence of tuberculosis. There are undoubtedly conditions of climate, habitations, etc., that favor the development of the disease, if the contagium is present; and the contagion, I think, is always derived *primarily* from the dairy cow. The Kirghiz inhabiting the steppes of Russia, one hundred feet below the sea-level, with a rigorous clime, intensely

cold winters and warm summers, badly housed and fed during the long months of cold weather, have no dairy cows, and enjoy an entire absence of phthisis. Take, as nearly as we can get, a diametrically opposite geographical and climatic condition, and we find Quito, the highest city in the world, situated ten thousand feet above the sea-level, located at the equator. "No torrid heats enervate the inhabitant of this favored spot, no icy breeze sends him shivering to the fire." "The mean annual temperature is 58 deg., the extremes 45 deg. and 70 deg. F."* Now, we have quite positive and authoritative statements regarding this city. Professor James Orton, of Vassar College, who made a scientific expedition to the equatorial Andes in 1867, under the auspices of the Smithsonian Institution, says, at Quito, "suddenly we are looking down into the valley of Chimbo; there are herds of cattle and fields of grain, yet we shall not find a quart of milk or a loaf of bread for sale. Thousands of cattle are raised on the Paramos, but almost wholly for beef. A dislike to milk (observed by Humboldt), or at least an absence to its use before the arrival of Europeans, was generally speaking, a feature common to all natives of the new continent. Some cheese, mostly unpressed curd, and a little butter, are made, but in the patriarchal style; only one American churn is in operation (in Quito, with a population of 80,000). The people insist on first boiling the milk, and then stirring it with a spoon; custom is omnipotent here, and its effect is hereditary." Professor Orton further says: "Consumption is unknown in the city." The testimony is unanimous that phthisis does not exist in Quito, but on the plains in Ecuador, according to Dr. Archibald Smith, who practiced there for twenty-five years, "the disease is not uncommon."

Professor Orton, after leaving Quito and traveling toward the Amazon, makes the following observation, which clearly indicates that the dairy cow exists in other parts of this country: "The following day we advanced five miles to Tablon, an Indian hamlet on the mountain-side. There we waited

* Orton, "Andes and Amazon," p. 92.

over night, and this was the only spot in South America where we found milk to our stomachs' content."

Without going into further details respecting separate communities, let us consider the statistics of Europe, and there we find that the prevalence of phthisis is regulated by the ratio of the bovine to the human race. Thus, in Ireland, where the cattle number 4,570,000, nearly an equal proportion to that of the inhabitants, according to Dr. Wylde, phthisis is by far the most fatal affection to which the inhabitants of that country are subject. Denmark, with about the same ratio of cattle to inhabitants, sustains about the same rate from consumption. In Portugal, where there are six inhabitants to one bovine animal, consumption attracts so little attention that few notices can be found relating to the disease in that country. In Italy, the distribution of cattle being one to six inhabitants, the mortality from phthisis varies greatly in different parts of the country, reaching the exceedingly low rate of 0.86 in a thousand in the Basilicata. In Egypt, where the ratio is one animal to nearly thirty inhabitants, Pruner tells us "that the disease becomes less in exact proportion as we proceed southward from the shore of the Mediterranean. In Central and Upper Egypt it is decidedly uncommon."*

Thus the statistics go on, and where the exceptions arise, the cause is always evident in the conditions that influence the breeds of cattle. Taking into consideration all the foregoing facts, there can be little doubt that the inbred species of the bovine race is the prime ætiological factor of phthisis in the human race. They not only nurse the germ and prevent its extinction, but sow it in the human race continually and abundantly; without their aid the germ would die, for of all the germs known none have so hard a struggle for existence in the human kind as the bacillus of tubercle, when we consider the comparatively few of the human race who are afflicted, and the immense number who are exposed to the infection and escape it.

* Hirsch, p. 192.

The cow is the only known animal that has transmitted tuberculosis to her offspring in inheritance. I am fully aware that this statement will meet with considerable opposition, as many of our best workers are of opinion that bacillary phthisis is hereditary in the human race. But I have concluded that this is merely a theory, because, after diligent search, I have failed to find a well-authenticated case on record of a human fœtus at term showing evidence of tuberculosis. We have, however, on record in the "Fortschritte der Medizin," No. 7, Vol. III., 1885, a case given by Johne of congenital tuberculosis in a fœtal calf of eight months, and in Crookshank's "Manual of Bacteriology" (plate 18), is a stained illustration of the bacilli from this undoubted case. Just in the line of this hereditary tendency let me narrate an experiment of my own. Last summer I took the entire lungs and all the largely involved lymphatic glands from a cow dead from acute miliary tuberculosis, and, confining five laying hens and a cock, fed them exclusively on this matter till it was all consumed. I found after eight days one of the hens, which I killed, had tubercular affection of the layrngeal glands; I took twenty-six of the last eggs laid by these hens and put them under two sitting hens in another part of the farm. Twenty-three of these eggs developed fœtal chicks, but not a single one lived to come out of the shell. Two or three days after the period of incubation had expired, the hens themselves broke the eggs, but every chick was dead. I took some of the eggs that I had not used for setting to the Carnegie laboratory, and Dr. Grauer searched diligently for the bacillus tuberculosis, but failed to find any. He found, however, the presence of the germ in the lymphatic glands of the hen I had killed; he now has some of the chicks, but I have received no report from him as to their condition. Of the four remaining hens and cock, some one stole the latter when he was apparently quite ill, three of the hens died extremely emaciated, notwithstanding that they had abundance of good food after they had finished the tuberculized matter, and the remaining hen was killed by the burning of the building in which she was confined. This experiment needs confirmation by further experi-

mentation. I had no idea that the eggs would not mature, or I should have placed with them under the same hens eggs from healthy birds; there was no appreciable cause in the surroundings or other conditions to prevent the hatching except the before-mentioned tubercular condition of the layers. I shall repeat this experiment, using eggs from healthy birds with those from tuberculous layers.

Without knowing that the fact is so, I have been looking up statistics of zoological gardens, and find that tuberculous animals fail to breed while in confinement. Of course we have no means of knowing how they behave themselves in their wild state, bnt I feel pretty safe in asserting that no one ever found a wild animal with tuberculosis. Darwin's statement while writing on inheritance—"that, unfortunately, it matters not, as far as inheritance is concerned, how injurious a quality or structure may be if compatible with life"—only applies to the human race and animals which the human race is instrumental in breeding. To such animals, bred by the human race, Darwin applies the term artificial. We all know that in cattle one that is injured or unable to follow the herd is killed by the herd, and bulls in their wild state only maintain their supremacy by their vigor. The moment the head of a herd suffers from age or disease he is put away by the next strongest, and thus the vigor of the herd is preserved by this law of the survival of the fittest.

Man cannot generate new forms, but he can so control and interfere with nature's processes as to modify the original design. Inbred cattle are selected, sheltered, and pampered, as they would be unable to withstand the rigorous conditions of the wild state: they propagate earlier and are larger milkers and more efficient beef-producers, and their meat is more delicate and tender than that of the wild animal. All this is achieved by man at the expense of his own health.

THE SOUTHERN VETERINARY SOCIETY, with Dr. E. R. Forbes, of Chattanooga, Tenn., as President, comes into existence at an opportune time, stepping forward into the ranks of scientific work when our whole country is alive and glowing with promise.

REPORTS OF CASES.

AMERICAN VETERINARY COLLEGE—HOSPITAL DEPARTMENT.

BRONCHOCELE IN A POINTER—OPERATION BY ENUCLEATION—SECONDARY HEMORRHAGE—DEATH.

By E. J. NESBITT, D.V.S., House Surgeon.

The patient was a male liver-colored pointer, about seven years of age, that in health weighed about seventy pounds, being very well developed. He had been in his last owner's possession ever since he was two months old. When quite young he suffered a severe attack of distemper, which, after having been cured, left him with a chorea of the diaphragm; this being perceptible when the animal was lying or asleep, but did not seem to cause him any inconvenience while at rest or at work. A few years later he was attacked with a skin disease, from which he never completely recovered. He had been used in the field, but most of his time was spent around the house. A large papiloma made its appearance in the left axillary space and was removed by a veterinarian about one year ago. To do this the animal was put under the influence of chloroform, but had difficulty to rally from it. The papilloma returned a short time after, and at the time of death was about the size of a small egg. The bronchocele, for which he was brought to us, first began to manifest itself June 6th, 1891. Since that time it had *gradually* increased in size up to ten days ago. Then it grew very rapidly. On examination we found a tumor about the size of a man's closed fist, situated at the base of the neck just anterior to the point of the left shoulder. This was readily movable and not painful to the touch. Since the first appearance of the enlargement the dog has gradually become dull and sluggish in his habits; this attracting the owner's attention because he was naturally wide awake and very active, and now did not care to do anything but to lie around the house in a sleepy manner. The slightest exertion would weaken him in a very short time; so much so, that if he walked five or six blocks a rest was necessary. Appetite was good and all the functions of the body normal.

Operation. The animal was secured and placed on a table, and the hair was removed by shears from the enlargement. A ten per cent. solution of cocaine was injected at the four points of the tumor, the latter was then thoroughly washed with a one to one hundred solution of creoline, and then with a one to one thousand solution of bichloride. After allowing time enough for the cocaine to have its full action established an incision over the most prominent part of the tumor was made from upwards downwards. The skin was then dissected back and the cellular tissue separated from the tumor, the blood vessels supplying the gland being then with some difficulty ligated and severed. Having done this the body was easily removed from the cavity, which was thoroughly cleansed with a solution of bichloride and the edges brought together by the interrupted suture ; a soft pad of oakum was then laid across the wound, held in place by a bandage suitable to the part. He was then placed in a large kennel and offered some bread soaked in milk, of which he ate sparingly, but took freely of water. During the night following the operation he suffered some pain, which was shown by an occasional moan. The next day he appeared very bright and could move easily without assistance. The wound was dressed and looked very well, discharging but very little and granulating very nicely, his temperature being 102° F. The next day his temperature was 103° F.; otherwise he appeared very comfortable, eating well and moving easily. The third day after the operation his temperature had risen to 110° F., would not eat anything, was very dull and did not care to do anything. He was given two drams of whiskey in the morning and later two ounces of milk punch every two hours. The morning of the fourth day came and with it trouble, for some time during the night he rubbed the wound against the door-post of the kennel, giving rise to a profuse hemorrhage which very much debilitated the animal. His pulse was very weak and hardly perceptible. The hemorrhage was controlled by pressure ; milk punch was given often. The hemorrhage weakened him so much that he was unable to stand without assistance. Notwith-

standing all our efforts death seized him Monday, July 13th, at two o'clock in the afternoon.

The tumor was irregularly elliptical, flattened from side to side, measuring nine inches in its longer and seven and one-half inches in its shorter circumference, weighing five ounces and five drams. On cross section through its longer diameter an empty sac was found in the center of the body capable of containing about one dram. Through the middle ran a band of dense tissue that separated a lighter colored and less dense from a darker colored and more dense portion.

On post-mortem the alimentary was found to be normal; stomach containing milk punch, and the rectum contained normal fæces. The liver was slightly enlarged, weighing about two and one-half pounds, normal in color and consistency. Gall bladder was distended with bile. The lungs and heart were normal, as were the kidneys and ureters. The bladder was greatly distended, containing 18 ounces of normal urine.

THORACIC JABOT—SUPPURATIVE PNEUMONIA—DEATH.

By E. B. Ackerman, D.V.S., House Surgeon.

The subject of this paper was a bay gelding, twelve years of age, used altogether as a saddle horse, to attend which I was called on Sunday, May 31, 1891, at 6:30 A.M. He had eaten most of his breakfast, which consisted of whole corn on the cob, when he was taken with a violent fit of choking. When I arrived the patient was lying down, and covered with perspiration from his exertions, every few minutes having spasms of the muscles of the neck with violent choking, and a discharge from the nose mixed with chewed food, with a regurgitation or wave-like motion running up the œsophagus.

Diagnosed case of choke caused by corn cob, which I was unable to detect in the cervical portion of the œsophagus, and suspected pharyngeal or laryngeal choke. Tried horse with water, but he would not drink. Introduced speculum in the mouth and made an examination of the throat; found

the epiglottis turned completely over, having passed between the two arytenoid cartilages. This I corrected by putting one finger under it and turning it over to its normal position. Thought that this might be the cause of choking, but as soon as I took my hand out of his mouth he had the same symptoms as before mentioned. Then made up my mind the obstruction was lodged in the thoracic portion of the œsophagus, so I administered linseed oil with a horn very slowly. This he swallowed without coughing until I finished, when he made one good cough and some returned through his nostrils. Put horse back in his stall and he laid down immediately; watched him about ten minutes, during which time he was very quiet, and without any more coughing; then went to breakfast; told the man to watch him while I was away; returned in three-quarters of an hour and found him standing up; the man said he had been very easy; watched him for a few minutes; he seemed to be all right and was drying off, so I discharged him, at same time telling the stableman not to feed any more corn.

I was called again on Tuesday morning to see the same horse, with history that he had left his feed that morning and was quite sick. On examination found horse had a temperature of 103⅖° F., pulse 68, respiration 70; visible mucus membranes congested; prune-juice discharge from nostrils; auscultation and percussion showed pneumonia of the left lung. Advised owner to send him to hospital, where he arrived about 4 P.M. He then had a temperature 104⅖° F., pulse 76, respiration 76, and labored, the membranes congested, the discharge from the nose was mixed with blood, horse hung his head almost to the ground, and was very weak. Auscultation showed increased respiratory murmur in the upper part of each lung, and a complete loss of it in the lower portion about one-third way up. On percussion got a straight line of flatness about same distance up; very slight fetid odor to breath; took the temperature again at night before retiring; it had risen then to 105° F., and the pulse was so fast and weak could scarcely count the beats. The fetid breath had now become well marked. From 10:30 A.M. to 11 P.M. the temperature had risen 1⅗° F.,

the pulse increased about thirty, and the breath had rapidly become offensive, showing how rapidly the disease was advancing. The patient also laid down several times during the night, staying down only a few minutes at a time.

Wednesday morning patient was still worse. Temperature 105$\frac{3}{5}$° F., respiration 72, and labored, and the pulse I could not feel at all; animal was very weak; nostrils dilated; hæmoptisis, groaned every few minutes, gnashing his teeth at the same time; profuse perspiration; getting up and lying down, and when standing did so with the posterior extremity braced up in the corner of his stall, continually looking around at his flank, *altogether showing symptoms of severe pain.* Horse laid down about 10:30 A.M., and was unable to get up; he then died in a few minutes.

On post-mortem examination, commencing with the respiratory track on account of the disease, we began with the larynx, which was perfectly normal; the mucus membrane of the trachea in the upper portion was congested, and in the lower third gangrenous. On opening the thorax there was a large escape of dirty serum with a very bad odor. The pleura was thickened, soft and ragged. The anterior portion of the right lung was gangrenous; the superior portion of the posterior part was in the stage of red hepitization, and the balance congested. The left lung was nearly all broken down. On separating the lungs there appeared an elongated body, which at first sight was taken for a piece of intestine. The heart was ænemic and slightly soft, the fat around it very yellow and echymotic.

Beginning again I took up the alimentary canal. Found the pharynx normal, also the œsophagus down to within a certain distance from the diaphragm, when it suddenly became very large. It was this enlargement we had mistaken for the intestines, but on closer examination it proved to be a large jabot, the muscular coat of which was very thick on its superior face (the original œsophagus), while the inferior part was very thin. It made a pouch equal to a small stomach, being fourteen inches long and thirteen and one-half inches in circumference; it was completely filled with water and ground

feed, separated from the stomach by a kind of constriction or ring formed by the muscular coat of the œsophagus. This was the cause of the choke for which I was called in, as the food massed in there and could only get into the stomach with difficulty. The stomach was about twice its natural size, with its coats very much thinner than normal. It contained a little fine feed and a large quantity of water. The liver and spleen were normal in size and shape. The liver was of a yellow color, easily torn and soft, while the spleen was a bright, beautiful green and very soft.

The interest in this case rests in the presence of the pneumonia, which assumed so rapidly a very active and fatal issue, promoted by one or both irritating causes. First, the presence and size of the jabot; and second, possibly the accidental introduction of a small quantity of oil into the air passages.

EXTRACTS FROM FOREIGN JOURNALS.

CEREBRAL APOPLECTIC STROKE IN THE HORSE.

By M. L. Magnin.

This case being the second of the kind observed by the author in six years' practice, that fact has led him to the conclusion that the accident is one of no uncommon occurrence. A mule, while being exercised in a ring, jumped over an obstacle scarcely three feet high, and instead of alighting on his fore feet, fell forward on his head, striking the ground with the superior part of the skull, and then, making a complete summersault, died instantaneously.

The post-mortem showed no indication of any fractures, complete or incomplete; no ecchymotic spots appeared in the subcutaneous cranial cellular tissue; and the meninges had a normal aspect. But on the floor of the fourth ventricle, towards the right corpora rectiforma, appeared a rough and irregular longitudinal laceration, with an ecchymosed border, beginning near the calamus scriptorius, and ending in front of the mezzocephalon; narrow behind, it increased

in depth and in width towards the front, where it involved half of the thickness of the bulb. Sections through the cerebral substance surrounding the fourth ventricle showed a reddish injection, more marked in some parts than in others. All other parts of the encephalon were perfect —*Journal of Zootechnie.*

A CASE OF THORACIC ECTOPIA.

By M. Louis Blanc.

The fact that thoracic hernia is not uncommonly found at post-mortem inspections, is a familiar one to practical pathologists, and whether these are ante or post-mortem, is a point of great interest to the practitioner. The following will add to the list of cases already on record.

An old horse was destroyed for anatomical purposes, no care having been taken to ascertain what his condition had been during life. Upon opening the abdomen, abnormal appearances became at once evident, in the disposition of the large colon. Upon removing the circumvolutions of the small intestines, while the first and the fourth portions of the large colon were exposed, both of the two central portions had disappeared. There were, however, extensive adhesions of these portions to the posterior face of the diaphragm. On opening the thorax, the other two portions were found in that cavity, presenting in their disposition a pecular twisted arrangement around the posterior vena cava.

The opening of the diaphragm through which the hernia took place occupied the whole upper portion on the right of the aponeurotic center, being bounded inwardly and downwardly by the pillars of the muscle and the vena cava, and outwardly and upwardly by the muscular portion of the diaphragm. It measured between eight and ten inches in its great axis. The edges were regular, smooth and rounded, and showed that the muscular and tendinous fibres were not torn or lacerated, but had deviated from their direction, in such a manner as to bind the borders of the hernial opening.

This condition was evidently of old standing, probably congenital. The animal affected with it had borne it for at

least twenty years without any apparent interference with his ability to perform his work.

SEVEN CALCULI IN THE ABOMASUM OF A HEIFER.

By M. Ch. Tyvaert.

A heifer and an ox were both affected with symptoms of tympanitis, for which they received similar treatment. This relieved the ox, but the heifer, notwithstanding the administration of a second dose of medicine, continued to grow worse. When seen by the author the following symptoms appeared: The animal was lying down, pulse weak and accelerated; respiration short and irregular; nose dry; ears and horns cold; head extended on the neck; face dull and anxious; eyes dull and widely open; salivation abundant; rumen not distended. She was killed, and at the post-mortem the entire organism was found perfectly healthy except that in the abomasum, embedded between the second and third stomachs, a mass appeared, resembling cork, of seven calculi, perfectly moulded on each other's surface and bound together with organic matter, and interfering with the passage of the food into the fourth stomach.—*Ann. de Med. Vet.*

PSEUDO RABIES OR ECLAMPSIA IN COWS.

By M. Van Passen.

Whether correct or not in his nomenclature, the author reports his cases as unusual and interesting, from their connection with possibly true rabies. A cow four years of age three hours after delivery became suddenly sick. At first she was uneasy and restless, then suddenly exhibited the following appearances: The body became rigid; eyes staring; head extended and resting on the manger; grinding the teeth; jaws moving as if chewing; abundant salivation. After a few minutes these symptoms relaxed and the animal micturated profusely; then in a frenzied manner she licked the right stifle region, the leg of the same side striking on the ground. There was no wound or cicatrix on the body; the temperature was normal; the pulse and respiration were slightly

accelerated; the milk was still secreted; the appetite and rumination were normal, as were urination and defecation. The attack was followed by another several hours after, and by a third an hour or two after. The light never incommoded her and she was indifferent to the sight of a hen. Two days later she was entirely well with the exception of the irritation at the stifle, which was gradually subsiding. Some days later the author was called to another case, also of a cow, four years old, that had calved three days previously, and had cleaned and was in full milking condition. She was agitated and uneasy; struck her horns right and left; licked her left fore-arm; salivated abundantly; bit surrounding objects; her back was arched; her urine scanty and expelled by strong expulsive efforts; fæces hard and coated. As in the other case the temperature, respiration and pulse were normal. After two successive attacks the animal recovered her normal condition and became entirely well. The treatment was symptomatic and expectant.—*Ann. of Med. Vet.*

CONTRIBUTION TO THE HISTORY OF FACTURES—FRACTURE OF THE ORBITAL PROCESS IN A HORSE—IRREDUCTIBILITY —TREPHINING—RECOVERY.

By N. F. Hendryx.

A mare, eight years old, while going down a stiff hill fell, and striking against a lamp-post, received a severe contusion upon the head. When seen she had a wound over the right superior eyelid on a line with the orbital process. The eye was almost entirely closed by thickening of the lids, as by the dropping of the bony apophysis. There was a fracture close to the temporal angle of the eye. The conjunctiva was torn by the sharp edge of the bone. Failing to reduce the fracture by external manipulation, the author decided to trephine the right frontal sinus, and by the aid of an iron lever succeeded in raising the fractured process to its normal position. The wound was well disinfected and its edges sewed together, and antiseptic dressings were applied over the parts. Everything proceeded favorably with the exception of the infiltration of the cornea, which was rather tedious to remove.

Some four months after a small slough of bone was removed from an abscess which had formed at the seat of the injury.—*Ibid.*

COMPOUND COMMINUTED FRACTURE IN A BITCH—AMPUTATION —RECOVERY.

By the Same.

A fox terrier bitch three years old, of great value, while attempting to bite a horse, received a kick which sent her under the wheel of a heavy cart, which passed over her right fore paw. There was a fracture of the radius and cubitus a little above the knee, and amputation was decided upon. The whole leg was thoroughly washed with bichloride solution, (1 to 1000), a ligature was placed on the lower extremity of the fore leg, to hold it in proper position, and a circular incision made about the middle of the fore arm, and the skin dissected, in order to preserve sufficient material for a lap covering the stump of the leg. The muscles were divided, the bones of the fore arm sawed off, the skin brought over the lower parts of the leg and a thorough antiseptic dressing applied, to be left in place until the fifth day. When it was removed it exposed a wound in full process of cicatrization, and three weeks later the wound was entirely healed. She has since then become the happy mother of a litter of seven pups, perfect in health and condition, and mother and children are doing as well as can be expected.—*Ibid.*

QUINTUPLE PREGNANCY.

By J. Laithwood, F.R.C.V.S.

On the 3d of May I was called to attend a well bred shorthorn cow in labor, but arrived at the scene of action too late to be of assistance to the mother. The cow had eaten a quantity of cabbage, which had caused tympanitis. A post-mortem inspection revealed five well grown calves, four bulls, and one cow, all well nourished, and lacking about three weeks of their proper time of birth. The calves all looked like living, if they had had the chance.—*Veterinary Journal.*

RECTO-VESICULAR FISTULA IN A HORSE—RECOVERY.

By J. A. Nunn, D.S.O., F.R.C.V.S.

The patient, an aged cob, was an inmate of the Lahore Veterinary College, the owner stating that the animal passed his urine through the rectum. He was in a miserable condition and much distressed. The temperature was 102°; pulse, 54; respiration quickened, thigh and perinœum excoriated by the dribbling of urine and fæces from the anus. The penis was much inflamed and swollen, with a sloughing ulcer on the glans, and about a pint of pus collected in the sheath. The mouth of the urethra was much constricted, and this stricture being divided with a bistoury and a catheter passed, a second stricture was found back of the first, and passed through, with careful pressure. The catheter was thus passed into the bladder and two or three ounces of urine drawn off. The repeated introduction of the catheter every few days was after awhile rewarded by the return of the normal flow of urine through the urethra. The animal during that time received simple antifebrile treatment and local anodyne suppositories. The sore on the penis was healing. In this case, says the author, the fistula was due in the first instance to the stricture of the urethra, causing retention of urine, which accumulated and ruptured the bladder at its upper surface, that viscus opening into the rectum, the stricture in all probability being the result of irritation caused by the sore on the penis.—*Ibid.*

DISLOCATION OF THE SHOULDER OF A MARE SUCCESSFULLY TREATED.

By Robert Gibbs, M.R.C.V.S.

This accident is not a common one, and the favorable result obtained in this case may be of service as an addition to the history of similar injuries.

A well bred mare running almost a dead heat with another, suddenly fell. On rising she was found to be exceedingly lame, the front of the shoulder joint being swollen, and the leg three or four inches shorter than its fellow. It was evident that she

had suffered a dislocation of the shoulder. She was removed the next day to the author's infirmary, and the shoulder fomented in order to soften and reduce the swelling. That being accomplished, and the animal being chloroformed, she was thrown. A band was put around her body at the saddle place, a three block pulley made fast to the leg above the fetlock, and two men with steady and continuous traction upon the fixed pulley gradually extended the leg, until all at once the joint returned to its normal position with a loud shock and report like the explosion of a small pistol. When the effects of the chloroform had ceased, the mare was walked into a loose box and has subsequently shown scarcely any signs of inconvenience from the injury.—*Ibid.*

AMPUTATION OF THE PENIS FOR CANCER.

By J. K. Calderwood, M.R.C.V.S.

A bay gelding, eight years old, had a discharge from the prepuce for some time, but no notice was taken of the condition. When assistance was called there was difficulty in urinating and loss of flesh. On examination it was found that at the end of the penis there was a large tumor, which extended into the urethra, affecting it for some distance. As the stench was unbearable, and the growth spreading rapidly, an operation was decided on, which was carried out as recommended by Prof. Williams in his "Surgery."

The most difficult part of the operation were to prevent the withdrawal of the penis, and to cheek hemorrhage, Although the penis was very tightly ligatured after the amputation, it was withdrawn before the arteries were satisfactorily secured. The safer way, the author thinks, is to pass the ligature through the substance of the organ. The bleeding in this case was profuse, but eventually overcome by cold water applications. The growth examined was cancerous in nature. —*Veterinary Record.*

DISCOMYCES EQUI.

By F. I. Harvey, M.R.C.V.S.

The subjects of this article are a mare and a colt, which

both presented affectious of the inguinal genital organs, due to the presence of this fungus.

In the first case it was a mare which had an enlarged udder of long standing, at first considered as one of scirrhus cancer. The growth was very hard, with abscesses forming and discharging, but yet with that exception without cutaneous ulceration. The treatments of tonics and iodine externally, and occasionally iodized phenol, failed to give relief, and the disease spread, involving both udders. Injections of iodine into the substance of the growth were then administered, using one or two drachms of tincture of iodine, with a half-per-cent. solution of carbolic acid. Three injections of ten drachms were employed every third day. The quantity was gradually increased and a longer time allowed between each injection. In a month's time all suppuration had ceased, and the œdema gone. The mare made a good recovery.

The second case was that of a colt which had contracted the infection about a year before, developing into a scirrhus cord. On account of peculiar reasons, the operation was postponed for a while, and the two cords removed afterwards. But in a few months the horse was as bad as ever. Two or three sinuses had opened on the right flank, and were discharging freely. Though a second excision was made the growth kept on increasing, and ultimately the colt had to be destroyed.

In the examination of the structure of the two growths, and especially of the discharge, made by Prof. McFadyean and Prof. Arxe, their correct microscopic nature was determined.—*Ibid.*

SOCIETY MEETINGS.

JOINT SESSION OF THE OHIO AND MICHIGAN STATE VETERINARY ASSOCIATIONS.

WEDNESDAY, JULY 22d.

Meeting was called to order at 8:20 P.M., July 22d, by Dr. Hawkins of Detroit, who in a few words stated the object of the meeting, and that the first business in order was the election of a Chairman and a Secretary.

Moved and seconded, that Dr. E. A. Grange, of Lansing, Mich., act as Chairman. Carried unanimously.

Dr. Grange, on taking the chair, thanked the meeting for the honor conferred upon him, and hoped the session would be an enjoyable one to all. The meeting was more of a fraternal nature than of a business one; that we would form some new acquaintances, and at the same time we had a few papers to discuss; but first let us proceed to elect a Secretary.

It was moved and seconded that Dr. W. H. Gribble, of Washington C. H., Ohio, Secretary of the Ohio Association, act as Secretary. Unanimously agreed to.

There was found to be present: Dr. E. A. Grange, Lansing, Mich.; Dr. Jos. Hawkins, Detroit, Mich.; Dr. J. J. Joy, Detroit, Mich.; Dr. S. Brenton, Detroit, Mich; Dr. Jas. Fleming, Detroit, Mich.; Dr. W J. Bracken, Fenton, Mich; Dr. W. B. Austin, Milford, Mich.; Dr. J. W. Ferguson, Bay City, Mich.; Dr. J. C. Whitney, Hillsdale, Mich.; Dr. Geo. Dumphy, Quincy, Mich.; Dr. Dell, Ann Arbor, Mich.; Dr. Thaborne, Lansing, Mich.; Dr. Smith, Adrian, Mich.; Dr. A. J. Thompson, Terre Haute, Ind.; Dr. J. W. Wilson, London, Ont.; Dr. J. W. Gibbs, St. Mary's, Ont.; Dr. J. C. Meyers, Sr., Cincinnati, Ohio.; Dr. J. V. Newton, Toledo, Ohio; Dr. W. R. Howe, Dayton, Ohio; Dr. W. Shaw, Dayton, Ohio; Dr. T. B. Hillock, Columbus, Ohio; Dr. W. E. Wight, Delaware, Ohio; Dr. J. Charlesworth, Springfield, Ohio; Dr.T. B. Cotton, Columbus, Ohio; Dr. E. B. Barnett, Akron, Ohio; Dr. C. Christman, Akron, Ohio; Dr. J. E. Campbell, Alliance, Ohio; Dr. W. H. Gribble, Washington C. H., Ohio.

Communications were read from several members of both Michigan and Ohio Associations, expressing their regrets at inability to be present.

Mr. Russel, in behalf of Parke, Davis & Co., offered the Association a stenographer for to-morrow morning if they needed one.

Moved and seconded that the offer be accepted. Carried.

The Chair now enquired how we should proceed; he had visited several Farmers' Institutes, and had noticed that the Question Box had always proved interesting, and thought it would be a good plan to have one here; any member to drop a question in the hat, to be answered by the others. This subject was deferred until later.

Dr. Hawkins: As the Chair was Chairman of a committee that presented a bill to the Legislature, we would ask for information as to what disposition was made of it.

The Chair: I would suppose that to be a subject for the Michigan Association and not this joint meeting; but if desired, would give his report to-morrow morning.

The Chair: The first matter in order is three questions propounded by Dr. J. C. Meyers, Jr., of Cincinnati. The Secretary will now read them:

QUESTIONS.

1st. Has a cryptorchide or monorchide power of reproduction?

2d. Has any one present had any practical observations on this matter?

3rd. Have any of the gentlemen present ever examined the spermatic fluid from a cryptorchide or monorchide and found spermatozoon?

The third question was answered first, as no one present had examined the spermatic fluid of such animals.

J. C. Meyers, Sr.: All I know of such things is what I have read and what

I have heard others say: but my son desired practical experience on the question.

Dr. Torrence: What are we to understand from question No. 1? Many animals have one concealed testicle and one well developed. He well knew such to be reproductive. Had known one monorchide that was reproductive, and could not see why it would be otherwise, if the testicle was developed.

Dr. Meyers: The object of the question is to determine if animals with hidden testicles are reproductive; for instance, if animal be a double cryptorchide, or if the developed testicle has been removed, leaving the one that is undeveloped.

Dr. Wilson: I have known stallions where only one testicle was showing to reproduce, but have never known such to happen where both were hidden; and do not believe it can. Do not believe hidden testicles contain the power to reproduce. I mean in horses.

Dr. Wright: Have known cryptorchides to cover mares, but no colts resulted.

Dr. Duffy: Had kept one two years where only one testicle was visible. He had produced many colts, in fact, as many as other horses.

Dr. Hillock: Had known several cases of true cryptorchides to be used, and never knew one to be productive. I mean in the horse—but I have in bulls.

Dr. Torrence: Had known rams with no external sign of testicle to produce. Remembered a case in Canada of imported sheep, amongst which was one of this kind, and which resulted in a big law suit.

Dr. Gribble: Had removed one developed testicle from horse, and had afterwards allowed him to cover several mares with no result. Had afterwards removed other testicle. Had known many cases of the kind, and if no developed testicle, no foal resulted. Had known such bulls and boars to reproduce.

Dr. Duffy: I once held a post-mortem to determine the cause of death, and found one well developed testicle in the abdominal cavity. It appeared as well developed as if in the scrotum: could not understand why such could not reproduce, but this animal had never been known to. In his experience cryptorchide horses were unable to produce, but other animals were.

Dr. Howe: I have never known one horse to prove productive, and do not believe they can be.

Discussion closed, it being the sense of this meeting that horses with undeveloped testicles are not reproductive, but bulls, rams and boars often are.

Mr. Russel asked the privilege of the floor, which was granted. He stated that as representative of Parke, Davis & Co., he would extend to all an invitation to visit their laboratories, etc., and would have carriages at the door to convey the members there and return.

Moved and seconded that the invitation be accepted, and the hour of departure be 8 A.M. Carried.

The Chair: The next in order will be a description of a few interesting cases, by Dr. Gribble, under the title "In-Breeding and Monstrosities."*

DISCUSSION.

Dr. Shaw asked if these animals had raised other young.

Dr. Gribble.: Case No. 1 and No. 2 had a very fine calf this season from a different bull. Cases No. 3 and 4 had never been bred since.

* Published in this issue.

Dr. Ferguson should think any man of good common sense would know better than breed that way.

Dr. Charlesworth hardly thought the breeding had anything to do with it, as he knew two fast trotters bred just that way.

Dr. Hillock: A poor way to breed indeed, but I think Dr. Gribble's cases one of accident, rather than due to the relationship of sire and dam.

Dr. Brenton: In-breeding has produced some of our best stock, but thought the cases mentioned to be a little too much so.

Dr. Gribble: I would state that Case No. 4 stood at a rack eating hay, and never after my arrival made one single expulsive effort. I have never before met a case of that kind.

This subject was well discussed, and finally drifted into the subject of breeding.

Dr. Torrence: Has any member present ever had experience in the use of impregnators?

Dr. Brenton: I would like to know what an impregnator was used for anyway; there is no sense in it, for if os uteri be dilated sufficient to get in the impregnator then the spermatozoon could pass in.

Dr. Cotton: My experience has been that those mares that I have examined that would not breed have been too loose and large, instead of too small.

Dr. Howe had known mares bred time and time again to different stallions all to no purpose, when some old scrub horse would cover her once and get her with foal.

Dr. Thompson: This opening of mares, as it is called, is a great humbug. Every stableman thinks himself capable of performing it.

Dr. Gribble knew a barn where a stallion was kept, and sixty mares served this season. Groom had informed him that he had found it necessary to open up over forty of them. He charged fifty cents. Probably this latter fact had something to do with the necessities of the case.

Dr. Hillock could not see how an impregnator could be of any service at all, unless probably it be a mare with a loose, flabby cervix, and folds of the membrane fell over the os uteri.

Dr. Ferguson: Of course you will all admit that it is of service in some cases to expand the os, but if it be open large enough to pass in a lead pencil that was sufficient to bring about conception, and no expansion was necessary.

Dr. Charlesworth had used impregnators, and found them of no use whatever.

Dr. Thaborne could agree with the doctor who had just spoken, and he had also used them to no benefit.

Dr. Torrence had know a mare bred several times with no result. A. V. S. had examined the animal and claimed a ruptured uterus. He (Dr. Torrence) had also been called to examine, but could find no rupture but simply a corrugated surface at the junction of the fallopian tubes, due he thought to a former pregnancy. In his opinion, so far as the uterus was concerned the mare was capable of breeding.

Dr. Thompson: It is a recognized fact that spermatozoa will not pass over a congested surface, and from that cause the operation of opening up would be a detriment instead of a benefit.

Dr. Gribble: That may be so, but I was consulted in reference to a mare that failed to breed after repeated trials. I found an indurated cervix, and so informed the owner, who is a physician. He asked, "Do you veterinarians ever expand the os uteri as we do in human practice?" I told him, "Yes." He desired me to take the mare twenty-six miles, perform the operation and allow the stallion to cover her, and bring her back. On arrival at the place I smeared the parts with solid extract of belladonna several times, after which it became somewhat softer, and I losing patience at waiting concluded to use some force. How much force I did use I cannot tell, but suddenly something gave way, my hand passed into the uterus, and I was covered with blood. At no operation have I seen such a hemorrhage. Plugged the parts with pledgets of tow and glycerine, and stayed all night. Next morning we removed them, allowed the stallion to serve her twice, and led her home. No other stallion has ever been used, and to-day she has a very fine colt and is in foal for another. Think there was congestion enough in this case described.

Dr. Thompson: Your excessive hemorrhage relieved the congestion.

Dr. Newton: We have several stallions at our stables; have used different kinds of impregnators, and known others to use them, and they are the most consummate humbug ever perpetrated on horse owners of to-day.

The Chair: It is getting quite late, though I am willing to stay longer. This discussion is quite lengthy, and all seem to agree that the so-called impregnators are nothing more nor less than humbugs.

Moved and seconded that we now adjourn until eight o'clock to-morrow morning, then to meet as per resolution carried earlier this evening. Carried.

THURSDAY, JULY 23d.

Met pursuant to agreement at 8 A. M. Carriages were in waiting and we were driven about three miles through beautiful streets, past palatial residences, to the laboratories of Parke, Davis & Co. This is an immense establishment, its size being far beyond our pre-conceived ideas. The buildings are built in the form of a rectangle, fronting on the Detroit river and occupying more than a square of ground. An open court is in the centre of the rectangle, so allowing excellent ventilation and arrangements for well lighted rooms. Their facilities for the manufacture and preparation of drugs are unexcelled, and such precautions taken to prevent mistakes that one is impossible.

The men of all the departments are trained and formed into a fire company. We were treated to an exhibition of their efficient service in case of fire, by the alarm bell being struck, when men came rushing from all directions, each to his allotted place, and in the space of a few seconds several streams of water were ready for the imaginary fire. The museum in the private office of the main building is alone worth the trouble and time of a visit to the place, containing, as it does, Eastern and Indian curiosities, war and peace implements, insects and animals, etc., etc.

Each gentleman present was presented with several samples of tablets specially prepared for hypodermic veterinary uses, and kindly requested to use them and favor the Company with a knowledge of the results derived therefrom.

Mr. Geo. S. Davis then invited the Association to visit his stock farm Claire-

view, situated about thirteen miles above Detroit and bordering on the river. He also tendered us the use of his private steam yacht "Caprice" to convey us to the farm and return. This cordial and welcome invitation was at once accepted, and arrangements made for the yacht to be at the foot of Third street at 1:30 P.M.

Returned to Abstract Hall for the morning session of our meeting.

The meeting was called to order at 10:30 with Dr. E. A. A. Grange, of Lansing, in the Chair. Secretary, Dr. Wm. H. Gribble.

Dr. Howe arose to extend the invitation of Mr. Geo. S. Davis of the firm of Parke, Davis & Co., to all the gentlemen present at the meeting, to visit Mr. Davis' stockfarm, Claireview.

Dr. Shaw made formal report of the death, by drowning, of Dr. W. I. Broaddus. The proper motion was made, supported and carried, that a committee be appointed to draft resolutions with reference to the death of Dr. Broaddus, and to submit a copy of said resolutions to the family of the deceased. As such committee the chair appointed Dr. Shaw, Dr. Dell, of Ann Arbor, and Dr. Brenton, of Detroit, Dr. Shaw to act as Chairman of the Committee, and to present the resolutions as soon as convenient.

A communication was then read by the Secretary, from William Jopling, of Owosso, Treasurer of the Michigan State Veterinary Association, expressing regret at enforced absence.

Accepted and placed on file.

The Secretary then read a paper by Dr. Logan, of Bellefontaine, O., on Digestion. Moved and supported, that, owing to the absence of the essayist and that other papers have to be read before noon, discussion on this paper be postponed. Carried.

A paper by the Chairman, Dr. E. A. A. Grange, on the "Horse and His External Conformation"* was then read.

Motion was made that the paper be received and placed on file.

Dr. Gribble having previously been called to the chair, a long discussion there took place between all the members relating to the best way to give publicity to the paper of Dr. Grange, some favoring the sporting papers, while others were in favor of the professional publications. At the conclusion Dr. Grange remarked:

Certainly I did not anticipate that my paper would excite so much interest, but I will say with reference to the final disposition of it, that I would prefer to re-write the paper. As I presented it this morning, it is a conglomeration of notes, as I have picked them up from time to time in a somewhat irregular way. When I would see anything, I would make a note of it. And I stuck this conglomeration of notes into my bag when leaving Lansing yesterday, and I presented them this morning in a somewhat disconnected way. If it is the wish of the meeting that I should write it up in a more concise and connected way, I should have great pleasure in doing so. The probability is that it would not appear in the *Journal* for another month.

After the transactions of some other special business relating to the legisla-

* Will be published in the REVIEW as soon as it is received.

tive measures and private business of the Associations, and votes of thanks to the authors of the papers read, and to the Chairman, the meeting adjourned to visit the stock farm "Claireview."

VETERINARY MEDICAL ASSOCIATION OF NEW JERSEY.

The 23d regular meeting of the New Jersey Veterinary Medical Association was held in Saenger Hall, on Thursday, August 13th, 1891, at Newark, N. J. Meeting called at 12 o'clock (noon), by the President, R. R. Letts. Secretary called roll, and following members present: J. W. Hawk, Newark; W. B. E. Miller, Camden; J. C. Dustan, Morristown; S. Lockwood, Woodbridge; L. P. Hurley, Hopewell; B. F. King, Little Silver; J. Kehoe, Lyndhurst; W. H. Rowland, Newark; W. Runge, Newark; R. O. Hasbrouck, Passaic; M. M. Stage, Dover; J. Gerth, Jr., Newark; R. R. Letts, Hoboken; W. H. Cooper, Jersey City.

Minutes was read and approved.

President Letts made a short address.

Secretary's and Treasurer's reports read and accepted.

Applications for membership were: Dr. Hugh Exton, Washington; Dr. Eugene Britton, Long Branch City; Dr. E. W. Schuppan, Jersey City; Dr. F. Lippencott, Swedesboro.

Recess was taken for half hour. Recalled.

Dr. Miller made report for the Board of Censors, and recommended S. W. Schuppan, E. Britton, and H. Exton for membership.

Election. Schuppan, Briston, and Exton were elected members.

A number of letters were read from different veterinarians and veterinary associations.

Bills passed.

Dr. W. H. Hoskins, Secretary of the U. S. Veterinary Association, made an able address.

Discussion, followed by banquet.

Camden, place of next meeting.

W. W. Curry next essayist.

W. H. Cooper, *Secretary.*

WESTERN PENNSYLVANIA VETERINARY MEDICAL ASSOCIATION.

A number of graduate veterinarians of Pittsburg and vicinity met several times at the office of Dr. J. C. McNeil, No. 26 Fourth Street, and finally, on July 24th, organized the above named association, and elected the following named officers to serve for one year, *viz*: President, E. I. Carter, V.S; Vice-President, H. F. Doris, D.V.S.; Secretary, James A. Waugh, V.S.; Treasurer, James C. McNeil, V.M.D.; Directors, H. S. Richards, V.S., Charles Falconer, V.S., and C. Z. Laberge, V.M.

Monthly meetings will be held regularly on the first Saturday of every month.

James A. Waugh has promised to read at the next meeting a paper entitled "Electrical Accidents to Domestic Animals."

James A. Waugh, V.S., *Secretary.*

NEW JERSEY STATE VETERINARY SOCIETY.

The annual meeting of the New Jersey State Veterinary Society was held in New Brunswick, Thursday, August 6th, 1891, in White Hall Hotel.

The meeting was called to order at 2:30 P.M. President E. L. Loblein occupying the chair.

On roll call the following members answered to their names: Drs. Jos. Hopkins, J. C. Corlies, I. N. Krowl, E. L. Loblein, W. H. Lowe, E. R. Mercer, L. K. Sattler, A. T. Sellers.

The minutes of the previous session were read and approved.

The address of the President followed.

The Board of Censors recommended the admission to membership of the following: Drs. E. R. Ogden, E. C. Batten, W. F. Harrison and T. H. Ripley. The report was received and the doctors named were duly elected to membership.

The following applications for membership were received and referred to the Board of Censors for action: Drs. E. Landes, Camden; W. Gray, Newton; E. D. Bachman, Phillipsburg; J. M. Whittpan, Jersey City; J. P Lowe, Paterson; S. C. Tremaine, Bridgeton.

The election of officers resulted as follows: President, Dr. James Hopkins; Vice-President, Dr. W. H Lowe; Treasurer, Dr. A. H. McIntosh; Secretary, Dr. A. T. Sellers; Board of Censors, Drs. E. R. Mercer, I. M. Krowl, E. R. Ogden, E. C. Batten, E. L. Loblein.

The newly elected President was then escorted to the chair, and made an address of interest to those present.

The following resolution was then adopted, which is intended to probe the supposed existence of contagious pleuro-pneumonia in and around Newark, where it is reported cattle are being condemned because of the disease, and afterward sold to the public for food.

Whereas, The alleged existence of pleuro-pneumonia among the cattle around Newark, N. J., and the action of the Bureau of Animal Industry in quarantining and destroying herds, has induced much hardship among the small owners of cows, and,

Whereas, Many complaints have been made to veterinarians by owners of cattle that no such disease exists in that vicinity; therefore be it

Resolved, That this Society shall appoint a committee of five to investigate the methods pursued by the Bureau of Animal Industry, and if deemed advisable call a special meeting to consider necessary action.

Drs. E. C. Batten, E. L Loblein and L. R. Sattler were appointed essayists for the next meeting.

Drs. E. R. Mercer, W. H. Lowe and James Hopkins were appointed delegates to the next annual meeting of the United States Veterinary Medical Association.

The essayists for the meeting being unavoidably absent, several hours were consumed in discussing colic in its different forms and its treatment. Many interesting and valuable points were brought out, notably the eserine treatment for flatulent colic. Congestive colic, the newly recognized form, received lengthy at-

tention of the greatest value to those present. The absent members missed a good meeting.

At 6 o'clock P.M. the meeting adjourned to the banquet hall, where an elegant repast was served.

Paterson was selected as the next place of meeting.

A. T. SELLERS, *Secretary.*

WESTERN IOWA VETERINARY MEDICAL ASSOCIATION.

Pursuant to a scheme to organize a veterinary association in the western part of Iowa, Dr. S. H. Johnston, of Carroll, issued a call for a meeting of the graduated veterinarians of this part of the State to meet at that place on the 24th of June, 1891.

Notwithstanding that several had promised to attend, when the time appointed arrived, there was but two present, Drs. S. H. Johnston, of Carroll, and G. A. Johnson, of Odebolt.

Not wishing to let the matter drop, they drafted a constitution and by-laws, appointed the following officers; Pres. Johnston, Vice Pres. Gibson, Sec'y-Treasurer, Johnson, and set August 8th as a date for a second meeting, at which time the proceedings of the June meeting would be presented for adoption.

G. A. JOHNSON, *Acting Secretary.*

The second meeting of the Western Iowa Veterinary Medical Association was held at Carroll, Ia, August 8th, 1891.

Meeting called to order by acting Pres. Johnston.

After some slight changes in the constitution and by-laws, the proceedings of the June meeting were adopted.

Moved by Dr. Johnson, and seconded by Dr. Gibson, that the President procure a list of service fees from the Ontario Veterinary College, and one from the Iowa State Medical Association. Carried.

After some further routine business, Dr. G. A. Johnson read a paper on "Open-joints, and a New Remedy," which elicited a lively discussion; after which the meeting adjourned to meet again at the call of the Secretary.

This will be but a small association of a dozen or so of members, as that is about the number of graduated veterinarians in this section of the State. The following are the members at present; S. H. Johnston, of Carroll, President; J. I. Gibson, of Denison, Vice-President; G. A. Johnson, of Odebolt, Secretary-Treasurer; L. A. Thomas, of Atlantic; and S. Stewart, of Council Bluffs. There will probably be several more applicants at the next meeting.

G. A. JOHNSON, *Secretary.*

PENNSYLVANIA STATE VETERINARY MEDICAL ASSOCIATION.

The semi-anuual meeting of the Pennsylvania State Veterinary Medical Association will be held at the County Medical Association rooms, Coal Exchange Building, cor. River and Market Sts., Wilkes Barre, Pa., Tuesday, September 8th, 1891, at 10 o'clock A. M.

Order of business in general and reports of the following committees; Committee on Legislation, Dr. W. H. Hoskins, Chairman; Committee on Intelligence and Education, Prof. R. S. Huidekoper, chairman; Committee on Sanitary Science and Police, Prof. W. L. Zuill, chairman.

Essays will be read by Dr. W. H. Hoskins, on "The Veterinarian as a Sanitarian;" Dr. S. E. Weber, on "Pleurisy and its Complications;" Dr. J. F. Butterfield, on "Results of Laryngitis."

ROBT. GLADFELTER, *Cor. Sec'y.*

CORRESPONDENCE.

FASCIOLA AMERICANA, (Hassall, July, 1891).

SYN.—Fasciola Carnosa. (Am. Vet. Rev., July, 1891.)

In reviewing the nomenclature of the distomidæ, I find that Rudolphi has already described a species from dentex vulgaris under the specific title of Carnosum. Consequently, according to the rules of nomenclature laid down by the International Zoological Congress, 1889, I have changed the name to Fasciola Americana.

ALBERT HASSALL, M.R.C.V.S., Baltimore, Md.

OBITUARY.

W. I. BROADDUS, V.S.

W. I. Broaddus, V.S., who died July 11, 1891, from drowning while in bathing, was a young veterinary surgeon, held in great esteem in the town of Connersville, Indiana, where he practiced his profession.

Dr. Broaddus was born in Connersville in 1865, received his education in the schools of that place, and later entered the State University of Indiana, where he took the usual course, including lectures on veterinary science. He graduated from there in the spring of 1888 and in the autumn of same year matriculated at the Ontario Veterinary College of Toronto.

At this institution he won several prizes and the medal for best examination in anatomy. He graduated in March, 1890, second in a class of two hundred.

He then returned to his native town and practiced his profession, being noted for his devotion to veterinary science and his pleasing address. Although he has only been in active practice a short time, his loss will be greatly felt by the citizens of Connersville.

Whereas, In the death of Dr. Broaddus it has pleased Almighty God to remove from our midst a worthy and esteemed friend; and,

Whereas, The intimate relations and business intercourse with him have been most pleasant to the members of these Associations and the veterinary profession, it makes it befitting that we publicly record our appreciation of him; therefore,

Resolved, That in the loss of Dr. Broaddus we lose a friend and valued member of our profession; and,

Resolved, That with deep sympathy with the afflicted relatives and friends, we express our earnest hope that even so great a bereavement may be overruled for their highest good; and,

Resolved, That a copy of these resolutions be sent to his relatives and also published in the veterinary journals.

WALTER SHAW, Dayton, Ohio.
S. BRENTON, Detroit, Mich.
E. DELL, Ann Arbor, Mich.
} Committee.

T. M. TYE, V.S.

The death of Dr. T. M. Tye, of Muncie, Indiana, has just been announced.

J. B. HILLOCK, V.S.

Dr. J. B. Hillock, of Lancaster, Ohio, died July 26th of blood poison, contracted in holding a post-mortem on an animal that died of pneumonia. He was a graduate of the Ontario Veterinary College, class of 1872.

PROFESSIONAL ITEMS.

DR. W. L. WILLIAMS, of Bloomington, Ill., has just been elected to the chair of Veterinary Science at Purdue University, Lafayette, Ind. This is a just recognition of a veterinarian who will in his new field reflect great credit on the profession, the school and himself, and those who have made so wise a selection are to be commended for their good judgment.

PITTSBURG, through the efforts of Dr. Jas. A. Waugh, one of the most promising workers in the profession, has formed a local veterinary society that promises much for the welfare of the profession in Western Pennsylvania. The selection of officers guarantees faithful work. This new-comer adds another link to the chain of veterinary science now fast girdling our entire country.

DR. SAMUEL STEWART, resident State Secretary for Iowa of the U. S. Veterinary Medical Association, has accepted an appointment in the Bureau of Animal Industry.

DR. V. ATKINSON, of Milwaukee, Wis., is reported dangerously ill.

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION. --This is obtainable, at any time, by a member of any State or local medical society which is entitled to send delegates to the Association. All that is necessary is for the applicant to write to the Treasurer of the Association, Dr. Richard J. Dunglison, Lock Box 1274, Philadelphia, Pa., sending him a certificate or statement that he is in good standing in his own Society, signed by the President and Secretary of said Society, with five dollars for annual dues. Attendance as a delegate at an annual meeting of the Association is not necessary in order to obtain membership. On receipt of the above amount the weekly Journal of the Association will be forwarded regularly.

VETERINARY COLLEGES.

With the approach of the fall season, the new announcements of the veterinary colleges are coming out. We have received those of the American, Chicago, Montreal and Toronto veterinary colleges.

NOTICE.

WANTED.—A copy of the REVIEW for February, 1891—number 11, of the 14th volume. A good price will be paid for it. Send to the Editor.

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